

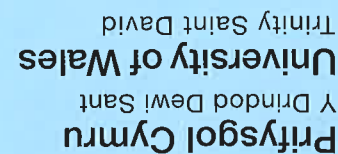


12 Pages

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

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, plynwch et a'i selio i lawr (gan ddefnyddio'r label a ddarparwyd i'ch enw.

3. Rhaid i'r atebion fod mewn llawysgriften ddarlennadwy. Gall yr Arholwyr naill ai anwybyddu sgript annarllennadwy, neu drefnu iddi gael ei theipio a chael yr ymgeisydd i dalu.

5. Dechreuwch bob ateb ar dudalen newydd. Gwnewch unrhyw fras nodiadau yn y llyfr atebion a thynnu llinell drwyddyn.
6. Ni ddylid rhwygo 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 gwyliwrr/gwyliwyr.
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 amgylchiadau.

arholi o dan unrhyw amgylchiadau.

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)

[illegible]

Llenwch, plynwch a seliwch
(gweler nodyn 2 isod)

CYFENNW:

ENW(AU) CYNTAF:

QUESTION ONE:

$$i a.) \quad 769 \mid 2 = (1100000001)_2$$

1	384	2
0	192	2
0	96	2
0	48	2
0	24	2
0	12	2
0	6	2
0	3	2
1	1	2
1	0	2

$$ii. B.) \quad (3A2)_{16} = (100110100010)_2$$

$$ii A.) \quad (87)_{10} \quad 87 \mid 8 = (127)_8$$

7	10	8
2	1	8
1	0	8

$$i) B.) (5D3)_{16} = \underbrace{0101}_{2} \underbrace{1101}_{7} \underbrace{1001}_{8}$$

$$ii) A.) (110101001)_2 = 1 \times 2^9 + 1 \times 2^8 + 1 \times 2^7 + 0 \times 2^6 + 1 \times 2^5 + 0 \times 2^4 + 1 \times 2^3 + 0 \times 2^2 + 0 \times 2^1 + 1 \times 2^0 = (937)_{10}$$

$$B.) (50E)_{16} = 5 \times 16^2 + 0 \times 16^1 + 14 \times 16^0 = (1294)_{10}$$

$$iv. A.) (4278)_{10} = (10116)_{16}$$

	4	2	7	8	16
6	2	6	7	16	
11	1	6	16		
0	1	16			
1	0	16			

3/1

$$\text{iv B.) } (670)_8 = 110111000 \\ = (1 \text{ B } 8)_{16}$$

QUESTION TWO

1. - B ✓
2. - F ✓
3. - C ✓
4. - E ✓
5. - C ✓

QUESTION THREE

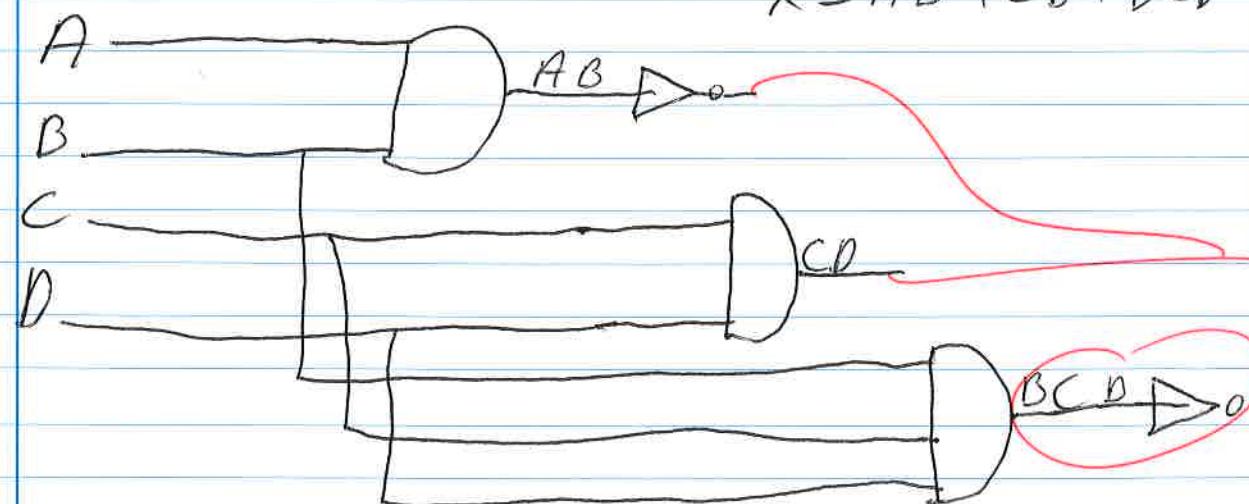
$$\frac{50000}{2 \times 2.5 \times 10^9} = \frac{50000}{5} \times 10^{-9} =$$

$$= 10.000 \times 10^{-9} \text{ s}$$

$$= 10 \times 10^{-6} = 10 \text{ MICRO SECONDS}$$

QUESTION FOUR

$$X = \bar{A}\bar{B} + CD + BC\bar{D}$$



QUESTION FIVE

A) EASY TO IMPLEMENT

- M - CAN WORK WITH HARDWARE AND SOFTWARE
- CAN PREVENT THE LOSS OF DATA
- HIGHER LEVEL OF RAID CAN BE COSTY

B.) RAID 1 IS BETTER PREVENTING THE LOSS OF DATA THEN RAID 0 (ZERO)

- L// - CAN COPY DATA ON TWO DISKS SIMULTANEOUSLY
- IF DATA IS LOST FROM ONE DISK IT CAN BE RECOVERED FROM SECOND ONE
- RAID 1 ALSO CALLED DATA MIRRORING

DISADVANTAGE RAID 1

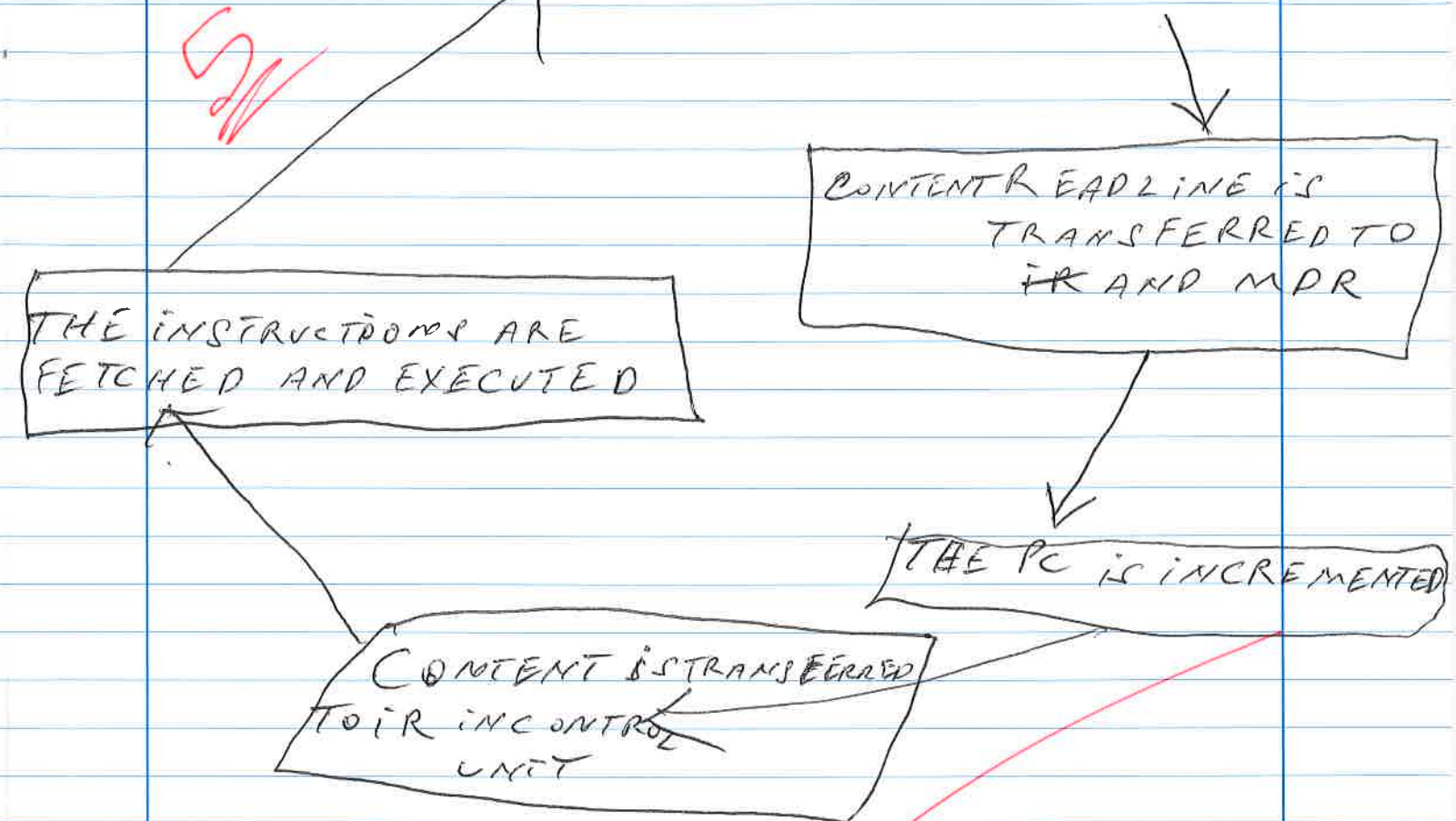
C.) YOU NEED MORE THEN ONE DISK TO IMPLEMENT RAID 1

ADVANTAGE

- A - IT CAN INCREASE EFFICIENCY
- IS MORE SECURE AGAINST DATA LOSS

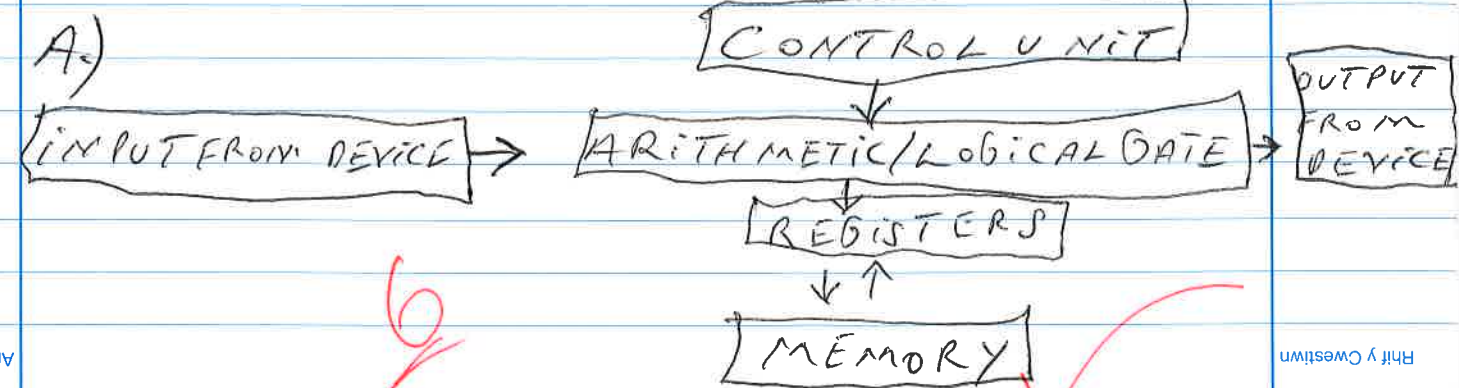
QUESTIONS SIX

A) FETCH CYCLE TRANSFERS DATA FROM PC TO MAR



B) - FETCH
- TRANSFER
- EXECUTE

QUESTION SEVEN



Question No.

B.)

C.)

Examiner Only

Question No.

Examiner Only

Arholwr yn unig Rhif y Cwestiwn

Rhif y Cwestiwn

Arholwr yn unig