



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.**

List the numbers of the questions you have attempted	Office Use
1	25
2	5
3	2
4	15
Total	47

(Gweler yr ochr arall am y fersiwn Cymraeg)



Prifysgol Cymru
Y Prifddod Dewi Sant
University of Wales
Trinity Saint David

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, plynwch ef a'i sellio i lawr (gan ddefnyddio'r label a ddarparwyd) i guddio'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 ymgaisydd 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/gwilywyr.
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.

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

(See the other side for English version)

[illegible]

Llenwch, plygwrch a seilwch
(gweler nodyn 2 isod)

CYFENW:

ENW(AU) CYNTAF:

$$\begin{array}{r}
 1 \\
 i) \quad a) (769)^{10} \\
 \div 2 = 384 \mid 1 \\
 \div 2 = 192 \mid 0 \\
 \div 2 = 96 \mid 0 \\
 \quad 48 \mid 0 \\
 \quad 24 \mid 0 \\
 \quad 12 \mid 0 \\
 \quad 6 \mid 0 \\
 \quad 3 \mid 0 \\
 \quad 1 \mid 1
 \end{array}$$

$$= (1000000001)^2$$

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

$$\begin{array}{l}
 9^2 \times 16 = 1296 + \\
 10^1 \times 16 = 160 + \\
 2^0 \times 16 = 16 \\
 = 1472
 \end{array}$$

$$\begin{array}{r}
 \div 2 = 736 \mid 0 \\
 = 368 \mid 0 \\
 184 \mid 0 \\
 92 \mid 0 \\
 46 \mid 0 \\
 23 \mid 0 \\
 11 \mid 1 \\
 5 \mid 1 \\
 2 \mid 1 \\
 1 \mid 0 \\
 0 \mid 1
 \end{array}$$

$$\begin{array}{l}
 9 \times 16^2 = 2304 + \\
 10 \times 16^1 = 160 + \\
 2 \times 16^0 = 2 \\
 = 2466
 \end{array}$$

$$\begin{array}{r}
 \div 2 = 1233 \mid 0 \\
 = 616 \mid 1 \\
 308 \mid 0 \\
 154 \mid 0 \\
 77 \mid 0 \\
 38 \mid 1 \\
 19 \mid 0 \\
 9 \mid 1 \\
 4 \mid 1 \\
 2 \mid 0 \\
 1 \mid 0 \\
 0 \mid 1
 \end{array}$$

$$= (100110100010)^2$$

could
have
done
in simple
process

ii) a) $(87)_{10}$

$$87 \div 8 = 10 \text{ } | 7$$

$$= 1(27)_8$$

b) $(509)_{16}$

$$5 \times 16^2 = 1280$$

$$13 \times 16^1 = 208$$

$$9 \times 16^0 = 9$$

$$= 1497$$

$$\div 8 = 187 \text{ } | 1$$

$$\div 8 = 23 \text{ } | 3$$

$$\div 8 = 2 \text{ } | 7$$

$$= 2(731)_8$$

can be done
in simple
process

iii) a) $(1110101001)_2$

$$1 \times 2^0 = 1$$

$$0 \times 2^1 = 0$$

$$0 \times 2^2 = 0$$

$$1 \times 2^3 = 8$$

$$0 \times 2^4 = 0$$

$$1 \times 2^5 = 32$$

$$0 \times 2^6 = 0$$

$$1 \times 2^7 = 128$$

$$1 \times 2^8 = 256$$

$$1 \times 2^9 = 512$$

$$= (937)_{10}$$

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

$$5 \times 16^2 = 1280$$

$$0 \times 16^1 = 0$$

$$(E) 14 \times 16^0 = 14$$

$$= 1294$$

$$= (1294)_{10}$$

$$\begin{aligned}
 \text{iv.) a) } (4278)_{10} \\
 \div 16 &= 267 \text{ R } 6 \\
 &= 16 \text{ R } 11 \text{ (B)} \\
 &= 1 \text{ R } 0 \\
 &= 0 \text{ R } 1 \\
 &= (10B6)_{16}
 \end{aligned}$$

$$\text{b) } (670)_8$$

$$\begin{aligned}
 6 \times 8^2 &= 384 + \\
 7 \times 8^1 &= 56 \\
 0 \times 8^0 &= 0 \\
 &= 440
 \end{aligned}$$

$$\div 16 = 27 \text{ R } 8$$

$$= (1B8)_{16}$$

2.)

RAM

- (b) memory ✓

Ethernet Port - (c) (f) Communication / Input ✓

Microphone

- (c) Input device ✓

Flash Drive

- (c) (e) Storage / Input ✓

Gamepad

- (c) Input device ✓

S

Question No.

Examiner Only

Question No.

Examiner Only

3.)

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

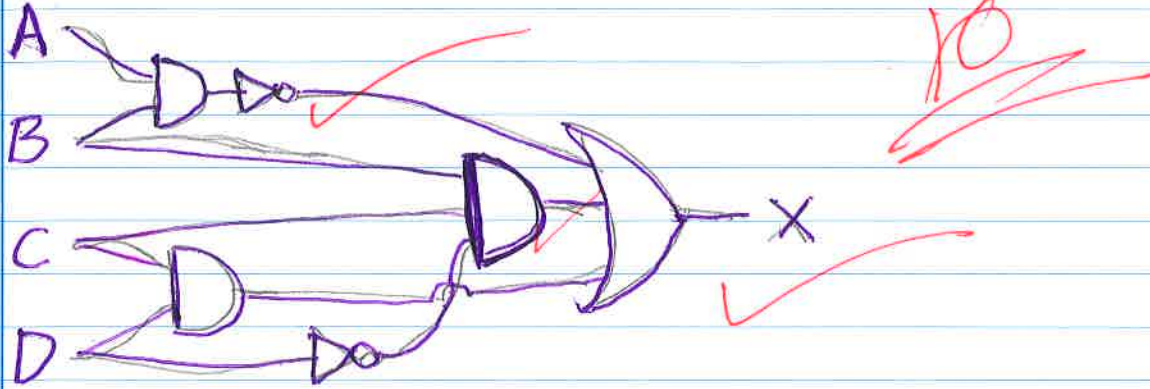
2

Arholwr yn unig Rhif y Cwestiwn

Rhif y Cwestiwn

Arholwr yn unig

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



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