

CS2100 Computer Organisation  
**Midterm Test — Answer Sheet**

AY2024/25 Semester 2

**Time allowed:** 1 hour 30 minutes

**PLEASE READ THE INSTRUCTIONS IN THE QUESTION PAPER CAREFULLY BEFORE PROCEEDING**

**Important instructions:**

1. Shade and write your Student Number correctly with a pencil (2B or above) on the right.
2. Shade one option for each MCQ in Part A with a pencil (2B or above).
3. For Part B, write your answers within the boxes provided. Anything written outside the boxes will not be graded.
4. You may use pencil to write your answers for Part B.
5. Do not attach any additional sheet to this Answer Sheet; it will be disregarded.

STUDENT NUMBER									
A									
U	<input type="radio"/>	0	0	0	0	0	0	0	A N
A	<input checked="" type="radio"/>	1	1	1	1	1	1	1	B R
HT	<input type="radio"/>	2	2	2	2	2	2	2	E U
NT	<input type="radio"/>	3	3	3	3	3	3	3	H W
		4	4	4	4	4	4	4	J X
		5	5	5	5	5	5	5	L Y
		6	6	6	6	6	6	6	M
		7	7	7	7	7	7	7	
		8	8	8	8	8	8	8	
		9	9	9	9	9	9	9	

**Part A: Multiple Choice Questions** (Total: 20 marks)

**For Examiner's Use Only**

Q	(A)	(B)	(C)	(D)	(E)
1.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<hr/>					
6.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	(A)	(B)	(C)	(D)	(E)

Q	(A)	(B)	(C)	(D)	(E)
11.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<hr/>					
16.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
19.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	(A)	(B)	(C)	(D)	(E)

Questions	Marks
PART A	/20
PART B	/20
<b>TOTAL</b>	<b>/40</b>

**Part B** (Total: 20 marks)

Write your answers within the boxes provided. Anything written outside the box will not be graded.

**21.** [4 marks](a) `addi $t1 $a0, 40`

[2]

0x

(b) `j label`

[2]

0x

**22.** [4 marks]

(a) After executing instruction 2:

\$t0 = 0x

\$t1 = 0x

(b) After executing instruction 5:

\$t0 = 0x

\$t1 = 0x

**23.** [6 marks]

❶ (sign-extend output)	0x
❷ (Add result)	0x
❸ (to the PC)	0x
❹ (Read data 2)	0x
❺ (ALU result)	0x
❻ (ALU control output)	0b

**24.** [6 marks]

\$t0 = 0x	(2 marks)
\$t1 = 0x	(1 mark)
\$t2 = 0x	(1 mark)
\$t3 = 0x	(1 mark)
\$t4 = 0x	(1 mark)

=== END OF PAPER ===