CS1231S Discrete Structures

Midterm Test — Answer Sheets

AY2023/24 Semester 2

Time allowed: 1 hour 30 minutes

INSTRUCTIONS

1. Write your **Student Number** and **Tutorial Group Number** (eg: T02) on the right. Do not write your name.

2. Check that you have written your Student Number <u>correctly</u>. No mark will be awarded for this test if we are unable to identify you with your Student Number.

3. These answer sheets comprise **FOUR (4) pages**.

4. All questions must be answered in the space provided; no extra sheets will be accepted as answers.

5. You must submit only these **ANSWER SHEETS** and no other documents.

6. An excerpt of the question may be provided to aid you in answering in the correct box. It is not the exact question. You should still refer to the original question in the question paper.

7. You may write your answers using pencil (at least 2B) or pen as long as it is legible (no red ink, please).

8. The maximum mark for this paper is 50.

9. **Marks may be deducted** for (i) illegible handwriting, and/or (ii) excessively long answer.

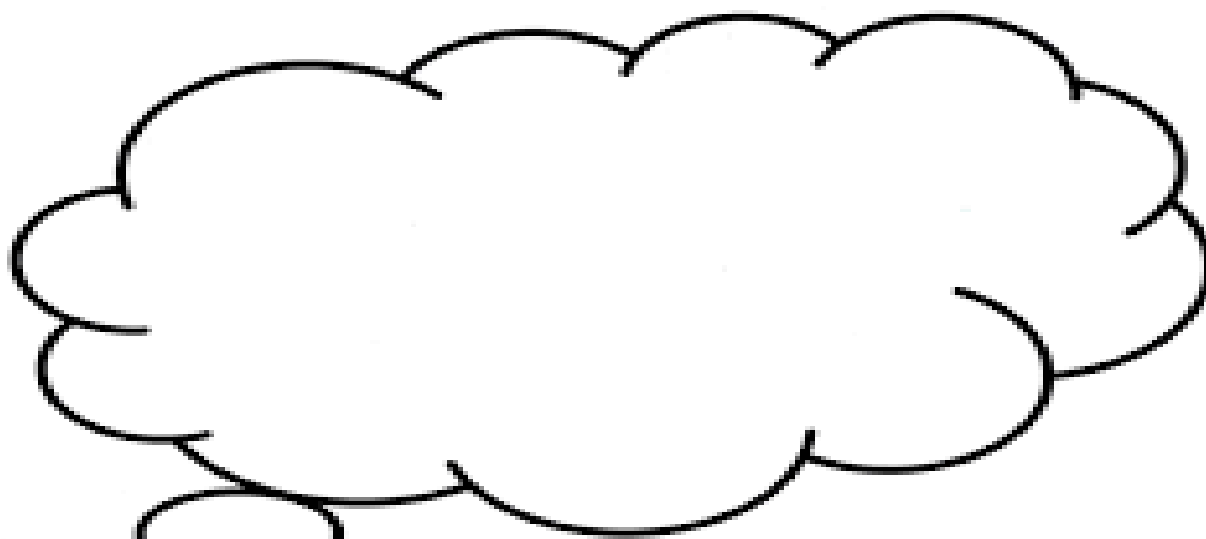10. Each multiple choice question is intended to have only one answer. Please shade the appropriate bubble.

My Student Number:

A

My Tutorial Grp Number: T

For Examiner's Use Only		
Question	Marks	Remarks
Q1-15	/ 30	
Q16	/ 2	
Q17	/ 6	
Q18	/ 4	
Q19	/ 8	
Total	**/ 50**	

Any feeling about this midterm test or CS1231S in general? This will not be graded! 😊

Part A: Multiple Choice Questions (Total: 30 marks)

Please shade using **pencil** only (2B or above) ONE bubble for each question.

	(A)	(B)	(C)	(D)	(E)
1.	○	○	○	○	○
2.	○	○	○	○	○
3.	○	○	○	○	○
4.	○	○	○	○	○
5.	○	○	○	○	○
6.	○	○	○	○	○
7.	○	○	○	○	○
8.	○	○	○	○	○
9.	○	○	○	○	○
10.	○	○	○	○	○
11.	○	○	○	○	○
12.	○	○	○	○	○
13.	○	○	○	○	○
14.	○	○	○	○	○
15.	○	○	○	○	○
	(A)	(B)	(C)	(D)	(E)

Part B (Total: 20 marks)

16. [2 marks]

17. [6 marks]

(a)
[1]
$$\bigcup_{i=4}^{14} A_i =$$

(b)
[1]
$$\bigcap_{i=4}^{14} A_i =$$

(c)
[2]

(d)
[2]

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18. [4 marks]

(a)
[1]
R is reflexive and not irreflexive.

(b)
[1]
R is irreflexive and not reflexive.

(c)
[1]
R is not reflexive and not irreflexive.

(d)
[1]
R is reflexive and irreflexive.

19. [8 marks] Write (a), (b), (c), (d) to indicate the part. Draw a line to separate the answers for different parts.

=== END OF PAPER ===