Ting Lik Siong
(CS2DDT 17F 2007)

10/10 Good

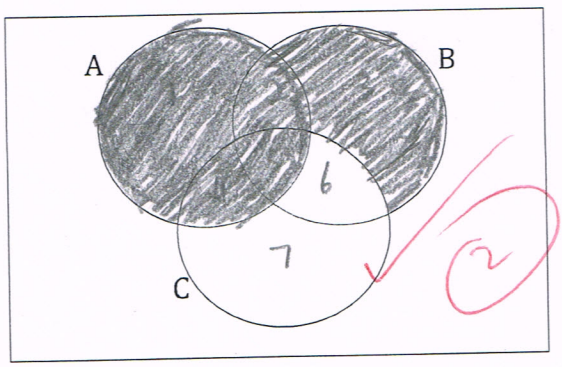
INSTRUCTION:

Answer all the questions. Show your working. It may help you to get marks.

Question 1 (CLO1, C2)

Shade in the set $A \cup (B \cap C')$

[2 marks]



2

$A \cup (B \cap C')$
1 ∪ (2 ∩ 1,3)
2 3 2
4 5 3
5 6

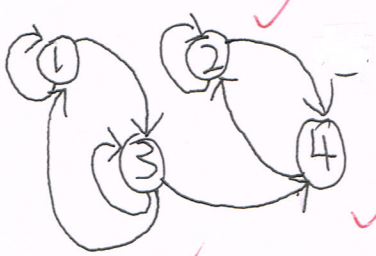
$A \cup (B \cap C')$
1 2,3
2
4
5

Question 2 (CLO1, C2)

(a) Given the relation R = {(1,1), (2, 2), (3, 3), (2, 4), (4, 2), (3, 4), (3,1), (1,3)} on the set A = {1, 2, 3, 4}.

(i) Draw the digraph on the given relation R.

[2 marks]



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(ii) Determine whether R is reflexive, R is symmetric, and R is transitive. Explain your answers.

[6 marks]

- R is not reflexive because 4 $\not R$ 4.
- R is not symmetric because whenever 3R4, but 4 $\not R$ 3
- R is not transitive because whenever 1R3, 3R4 but 1 $\not R$ 4

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