

# COL202 Minor exam

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TOTAL POINTS

20 / 27

## QUESTION 1

### 1 Problem 1 3 / 3

! + 3 pts *Correct*

££ - 0.5 pts Each Minor mistake/ Undefined variable used

££ + 0 pts Incorrect/Not attempted

mention that you are doing for minimum k

## QUESTION 2

### 2 Problem 2 2 / 2

! + 0.5 pts *Mentioned proof method, and concluded the proof*

! + 1.5 pts *Considered all cases of A and shown there is a y*

££ + 0 pts Incorrect/Not attempted

## QUESTION 3

### 3 Problem 3 6 / 6

! - 0 pts *Correct answer for both statements*

££ - 3 pts Wrong truth table for statement 1

££ - 3 pts Wrong conclusion for statement 1

££ - 1 pts Not written concluding statement for 1

££ - 3 pts Wrong truth table for statement 2

££ - 3 pts Wrong conclusion for statement 2

££ - 1 pts Not written concluding statement for 2

## QUESTION 4

### 4 Problem 4 7 / 7

! + 7 pts *Correct*

££ + 1 pts Using the proof by contradiction.

££ + 1 pts Assuming S to be non-empty.

££ + 1 pts There exist some  $x_0$  (smallest element in the S)

££ + 3 pts Correct by cases and using the contradiction of the minimality of S.

££ + 1 pts Concludes S is empty and proved.

££ + 0 pts Unattempted/Completely wrong.

## QUESTION 5

### 5 Problem 5 2 / 9

Proof that  $G'$  is connected

££ + 1.5 pts Partially correct

££ + 3 pts Correct

Proof that  $G_0$  is acyclic

££ + 1 pts Without using maximally acyclic concept

! + 2 pts *Using maximally acyclic concept - considered edges of G*

££ + 5 pts Using maximally acyclic concept - considered both edges and non-edges of G

££ + 1 pts  $G_0$  is connected and acyclic  $\Rightarrow$  spanning tree

££ + 0 pts Incorrect/Not Attempted







