香 港 中 文 大 學
The Chinese University of Hong Kong

Course Examination 1st Term, 2011 – 2012

Course Code & Title : **CSCI 3130: Formal languages and automata theory**

Time allowed : **2 hours**

Student I.D. No. : .... Seat No. : ....

Questions 1–2: ....

Questions 3–4: ....

Questions 5–6: ....

Questions 7–8: ....

Questions 9–10: ....

Total: _____

The exam consists of 10 questions, worth 10 points each. In each of the questions you are given a statement with a true/false choice. Circle one of the choices and explain your answer. It is always to your advantage to circle a choice *and* explain your answer.

Possibly useful facts:

A_{TM} = { $\langle M, w \rangle$: TM M accepts input w } is not decidable.

$HALT_{TM}$ = { $\langle M, w \rangle$: TM M halts on input w } is not decidable.

PCP = { $\langle P \rangle$: P is a collection of PCP tiles with a top-bottom match } is not decidable.

$CLIQUE$ = { $\langle G, k \rangle$: Graph G has a clique of size k } is NP-complete.

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True-False questions
not provided

P. 2 - P. 6

- End -