

University of Miskolc

Miskolc, 28. November, 2017.

Name:.....

Second test COMPLEXITY OF ALGORITHMS (GEMAK121M-A)

1 (6 pts) Give the following definitions

(a) Non-deterministic Turing machines:

(b) Miller condition:

(c) NP-complete language:

(d) weakly decides (decides in the Monte-Carlo sense):

(e) The information complexity (Kolmogorov complexity):

(f) Informatically random sequence:

**2** (6 pts) Give the following theorems and examples

(a) Savitch's Theorem:

(b) Cook-Levin Theorem:

(c) Give 3 examples of NP-complete problems:

(d) Farkas Lemma:

(e) Schwartz's Lemma:

(f) Coding Theorem: