

**CS 302**  
**QUIZ 10**

17 December, 2019

**Duration : 15 minutes**

***Do not forget to write your name on your paper !***

**QUESTION (10 pts)**

*State the definition of a Deterministic Turing Machine DTM,  $M = (Q, \Sigma, \delta, s, H)$  :*

- (a) (5 pts) **Deciding** a language  $L \subseteq \Sigma_0^*$*
- (b) (3 pts) **Semideciding** a language  $L \subseteq \Sigma_0^*$*
- (c) (2 pts) **Computing** a function  $f: \Sigma_0^* \rightarrow \Sigma_0^*$*

*where  $\Sigma_0 \subseteq \Sigma$*