

**Quiz 8**  
**Answer Section**

**Time: 20 Min**

**Credit: 30 Points**

**Date: 04/19/2018**

- 1 T
- 2 F
- 3 F
- 4 T
- 5 F
- 6 T
- 7 T
- 8 F
- 9 T
- 10 T
- 11 B
- 12 A, B, C
- 13 A, B
- 14 B
- 15 A
- 16 A, B, D
- 17 A function is said to be "Turing-computable" if there exists a TM that implements it.
- 18
  - $L((aa)^*) = (L(aa))^*$
  - $= (L(a) \cdot L(a))^*$
  - $= (\{a\} \cdot \{a\})^*$
  - $= (\{aa\})^*$
  - $= \{aa\}^*$
  - $= \{\lambda, aa, aaaa, \dots\}$
  - $= \{a^{2n} : n \geq 0\}$
- 19  $r = b^*$
- 20  $r = b^* a b^* a b^*$
- 21  $r = (a+b)^* aa (a+b)^*$
- 22  $L = \{a^n b^m : n, m \geq 0\}$