

Name \_\_\_\_\_ Student ID \_\_\_\_\_ Colleges & Schools \_\_\_\_\_ Department \_\_\_\_\_

**Quiz Unit 7**

1. Implement  $f(a, b, c, d) = \sum m(3, 4, 5, 6, 7, 11, 15)$  as a two-level gate circuit, using a minimum number of gates.
  - (a) Use AND gates and NAND gates.
  - (b) Use OR gates and NAND gates.
  - (c) Use NAND gates only.