

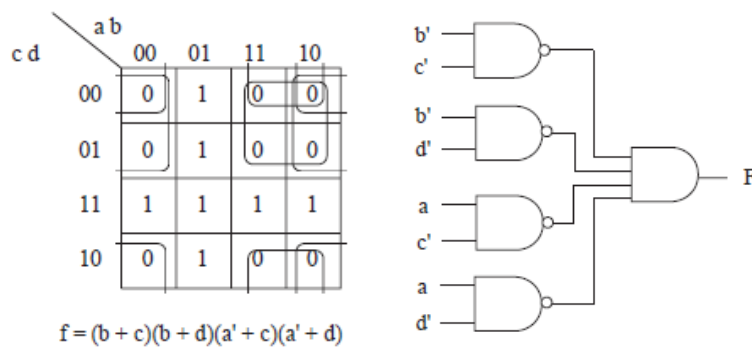
Name \_\_\_\_\_ Student ID \_\_\_\_\_ Colleges & Schools \_\_\_\_\_ Department \_\_\_\_\_

### 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.

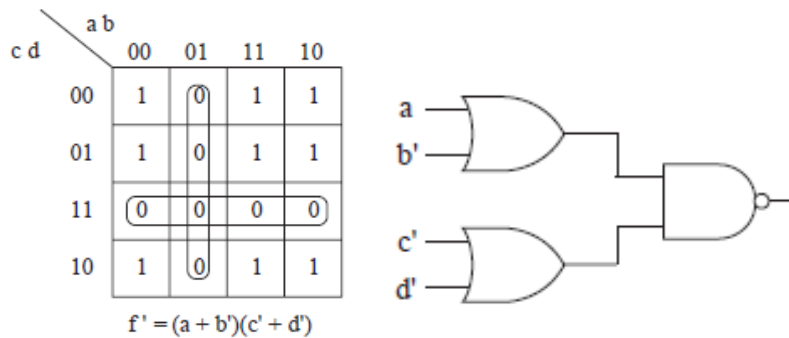
(a) Use AND gates and NAND gates.

Sol.)



(b) Use OR gates and NAND gates.

Sol.)



(c) Use NAND gates only.

Sol.)

