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| **Digital Logic Design** | | |
| Faisal Iradat, PhD | Quiz – 2 | Marks: 20 (Scaled to 2) |

1. Apply DeMorgan's theorems to the following expressions:
   1. and

(X+Y+Z).(X.Y.Z)

[2+2]

1. Using Boolean algebra techniques, simplify the following expressions:
   1. AB + A(B + C) + B(B + C)

AB+AC+BB+BC  
AB+AC+B+BC  
AB+AC+B(1+C)  
AB+B+AC  
B+AC

[3+3]

1. Convert the following expression into standard SOP form:

AB’C(D+D’)+(C+C’)(D+D’)+ABC’D

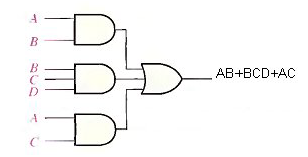
[3]

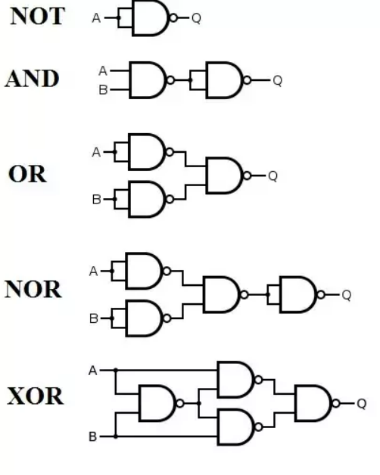
1. Convert the following expression into standard POS form:

(A’+B+C+DD’)(AA’+B’+C+D’)(A+B’+C’+D)

[3]

1. Convert the following circuit using NAND and NOR implementations





[2+2]