

## Quiz 2 Digital Logic Design

6+4+5

1. Convert the following Boolean equation to a MUX-based implementation:

$$F = AB + A^cC$$

Use A and B as select lines.

2. Explain how a 16:1 MUX can be constructed using two 8:1 MUXs and one 2:1 MUX.

3.i. A positive-edge triggered JK flip-flop receives the following inputs:

Clock: 

↑ ↑ ↑ ↑

C1 C2 C3 C4 (rising edges)

J: 0---1-----1----

K: 0-----1---0-----

Q: (Write the output waveform here)

ii. Draw the D flip flop and T flip flop and their truth table