2009 Contemporary Logic Design Final Exam. 80 分鐘

Name: Student ID:

1. 15% Design a 5:32 decoder, using some 3:8 decoders and a 2:4 decoder

2. 20% Design a 3-bit counter with sequence of 1, 5, 7, 2. Direct all illegal states to state 7.
   Draw the resulting circuit using JK flip flops.
   Note: Use the symbol in order of CBA (違者不計分)

3. 30% Design a 3-bit counter with sequence of 1, 5, 7, 2, 3, 4, 6, 8
   Draw the resulting circuit using D flip flops.
   Note: Use the symbol in order of CBA (違者不計分).

4. 15% Implement the logic function F=∑*m*(0,4,5,6,7,8, 10,13,15), using a 4: 1 Multiplexer.

5. 20% Complete the waveforms of Q_{7474} and Q_{7476}