Date / / Subject

Sheet 5

Q1

a) Starting address = $30_{16} \times 4_{16} = C0_{16}$

b) i) $21_{16} = 100001_2$

∴ interrupt mask = 001

ii) Level of Interrupt = 1 (IRQ1)

2

a) Memory-mapped I/O → single address space
∴ range from 0 to 127 distributed between memory and I/O

b) Isolated I/O → Two separate address spaces
∴ range from 0 to 127 for memory and another range from 0 to 127 for I/O

3

① interrupt exciting ISR3
② excute ISR 5 completly
③ return to finish ISR 3
④ start executing ISR 2 then interrupt when ISR 6 is activated
⑤ excute ISR 6 completly
⑥ excute ISR 4 completly
⑦ return to finish ISR 2
⑧ excute ISR 1 completly

Date / /

b)

ISR 3 → 011

ISR 5 → 101

ISR 3 → 011

ISR 2 → 010

ISR 6 → 110

ISR 4 → 100

ISR 2 → 010

ISR 1 → 001