**Roll: 1703072**

**Register mode**

Opcode (2 bit+1 bit)+ Register RA (2 bit)+ Register RB (2bit)+ Unused (11 bit)

Opcode first 2 bit= 00 + last 1 bit 0=AND, 1=SHL

**Register Mode AND**= 000000100000000000

**Register Mode SHL**= 001000100000000000

**Immediate mode**

Opcode (2 bit+1 bit)+ Register RA (2 bit)+ Register RB (5 bit)+ Unused (8 bit)

Opcode first 2 bit= 01 + last 1 bit 0=AND, 1=SHL

**Immediate Mode AND**= 010000010100000000

**Immediate Mode SHL**= 011000000100000000

**Branching**

Opcode (2 bit+1 bit)+ Address 4 bit+ Unused (11 bit)

Opcode first 2 bit= 10 + last 1 bit 0= JC

**Branching Mode JC=** 100011100000000000