**Question 10**

**Perform AND operation with the contents of Register R4 and Memory Location 0xe0. Store back the Result in Memory Location 0xe6.**

**LOAD R4, Memory(001)**

**AND R4, Memory(0xe0)**

**STORE R4, Memory(0xe6)**

**Address:**

| Location Given in Hex | Address in Binary | Data in Binary    (in Hex) |
| --- | --- | --- |
| 001 | 000000001 | 1010101010101010    (aaaa) |
| 0xe0 | 011100000 | 1111111100000000    (ff00) |
| 0xe6 | 011100110 | (Data Stored after last Instruction) |

| **Instruction:** | Memory Address | Register | Opcode | inst. In Hex |
| --- | --- | --- | --- | --- |
| Load R4,Mem(001) | 000000001 | 100 | 0000 | 00c0 |
| AND R4,Mem(0xe0) | 011100000 | 100 | 1000 | 7048 |
| STORE R4,Mem(0xe6) | 011100110 | 100 | 0001 | 7341 |

**Bitwise AND**

**1010101010101010 (aaaa)**

**1111111100000000 (ff00)**

**1010101000000000 (aa00) – Result**

**Result is Stored in 0xe6**