1.

0x1D=0b00000000011101

VPO=0b011101

VPN=0b00000000

TI=0b00

TT=0b000000

PPN = index 0 in TLB, look for tag 0 = 0x28=0b101000

Physical address=0b101000011101

CI=0b0111

CT=0b101000

CO=0b01

Look for tag 0x28 in set 7 of cache -> miss

2.

0x24D3=0b10010011010011

VPO=0b010011

VPN=0b10010011

TI=11

TT=0b10010011=0x93 in hex

PPN = index 3 in TLB, look for tag 0x93, not found. so go to index 3 in page table = 23=100011 (in binary)

Physical address = 0b100011010011

CT=0b100011

CO=0b11

CI=0b0100

index 4 in cache, look for tag 0x23->miss

3.

0x89B=0b100010011011

VPO=0b011011

VPN=0b100010

TI=0b10

TT=0b1000

PPN=index 2 in TLB, look for tag 0x8, not found. Go to index 2 in page table = 33=0b110011

Physical address=0b110011011011

CT=0b110011

CO=0b11

CI=0b0110

Go to index 6 in cache, look for tag 0x33 and at block 3 -> HIT. Data=D4

4.

0x1F4=0b00000111110100

VPO=0b110100

TI=0b11

TT=0b000001

PPN = index 3 in TLB, look for tag 1 = 0x16=0b010110

Physical address=0b010110110100

CT=0b010110

CO=0b00

CI=0b1101

Go to index D in cache, look for tag 0x16 and at block 0 -> Miss.