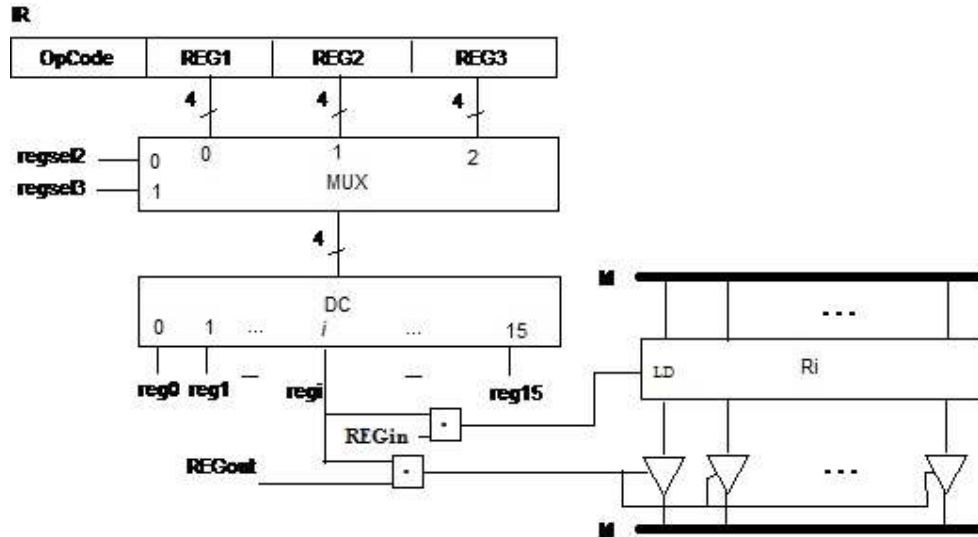


Kolokvijum iz Arhitekture i organizacije računara 2

a) (5p)



b) (20p)

```
; Dohvatanje instrukcije
BEGIN:    PCout,MARin,Xin
          read,inca,ALUout,PCin
          wmf
          MDRout,IRin
; Dekodovanje instrukcije
          opcase
; LOAD instrukcija
LOAD:     admodld          ; način adresiranja za LOAD
; Neposredno adresiranje
LDIMM:    PCout,MARin,Xin
          read,inca,ALUout,PCin
          wmf
          MDRout,regsel3,REGin,branch(IRR,INTH)
          branch(,BEGIN)
; Registarsko direktno adresiranje
LDRD:     regsel2,REGout,TEMPin
          TEMPout,regsel3,REGin,branch(IRR,INTH)
          branch(,BEGIN)
; Registarsko indirektno adresiranje
LDRI:     regsel2,REGout,MARin
          read
          wmf
          MDRout,regsel3,REGin,branch(IRR,INTH)
          branch(,BEGIN)
; Memorijsko direktno adresiranje
LDMD:     PCout,MARin,Xin
          read,inca,ALUout,PCin
          wmf
          MDRout,MARin
          read
          wmf
          MDRout,regsel3,REGin,branch(IRR,INTH)
          branch(,BEGIN)
; Memorijsko indirektno adresiranje
LDMI:     PCout,MARin,Xin
          read,inca,ALUout,PCin
```

```

        wmfcc
        MDRout,MARin
        read
        wmfcc
        MDRout,MARin
        read
        wmfcc
        MDRout,regsel3,REGin,branch(IRR,INTH)
        branch(,BEGIN)
; Aritmetičke i logičke operacije
ALU:    regsel1,REGout,Xin
        regsel2,REGout,Yin
        ALUop,ALUout,regsel3,REGin,branch(IRR,INTH)
        branch(,BEGIN)
; Obrada prekida
INTH:   SPout,Xin
        decA,ALUout,MARin,SPin
        PCout,MDRin
        write,SPout,Xin
        wmfcc
        decA,ALUout,MARin,SPin
        PSWout,MDRin
        write
        wmfcc
        IVTEout,Yin
        IVTPout,Xin
        add,ALUout,MARin
        read
        wmfcc
        MDRout,PCin, clPSWI, branch(,BEGIN)

```

```

c) (5p)      START:   LOAD      R1,#200h    ; R1:=200h
              OR        R3,R3,R3    ; R3:=R3 OR R3
              JZ        END          ; if(R3=0)goto end
LOOP:        LOAD      R2,[R1]      ; R2:=a[i]
              ADD       R2,R2,R4     ; R2:=R2+R4
              STORE     R2,[R1]     ; a[i]:=R2
              INC       R1           ; R1:=R1+1
              DEC       R3           ; R3:=R3-1
              JNZ       LOOP        ; NEXT
END:

```