

Register for Certification
exam

Course outline

How does an NPTEL online
course work?

Week 0

Week 1

Week 2

Week 3

Week 4

- Lecture 17: Design of Control
Unit (Part - 1)

Week 4 : Assignment 4

Your last recorded submission was on 2021-08-30, 12:08 IST

Due date: 2021-09-01, 23:59 IST.

- 1) If the instruction size of a machines is 64 bit long, which has a byte addressable memory then to point to the next instruction the PC value should be incremented by _____?

1 point

- 2) During fetch operation of an instruction does CPU knows what kind of instruction is getting fetched?

- a. Yes
b. No

1 point

- a.
 b.

Lecture 18: Design of Control Unit (Part - 2)

Lecture 19: Design of Control Unit (Part - 3)

Lecture 20: Design of Control Unit (Part - 4)

Lecture 21: Implementation of MIPS32 (Part - 1)

Lecture 22: Implementation of MIPS32 (Part - 2)

Week 4 Lecture Material

Quiz: Week 4 : Assignment 4

Feedback form for Week 4

Week 5

Week 6

DOWNLOAD VIDEOS

Assignments Solution

3) Consider the following statement:

(i) Program Counter holds address of the memory location containing the next instruction to be executed.

(ii) Instruction Register contains the next instruction to be executed.

Which of the following is correct?

- a. Only (i) is true
- b. Only (ii) is true
- c. Both (i) and (ii) are true
- d. Both (i) and (ii) are false

- a.
- b.
- c.
- d.

1 point

4) For single bus architecture, register Y and Z can be used only to store intermediate value?

- a. True
- b. False

- a.
- b.

1 point

5) Consider the following set of micro-operations for a single bus architecture machine:

1 point

Step	Action
T1:	PCout, MARin, Read, Select4, Add, Zin
T2:	Zout, PCin, Yin, WMFC
T3:	MDRout, IRin
T4:	R3out, Yin, SelectY
T5:	R4out, ADD, Zin
T6:	Zout, R3in, End

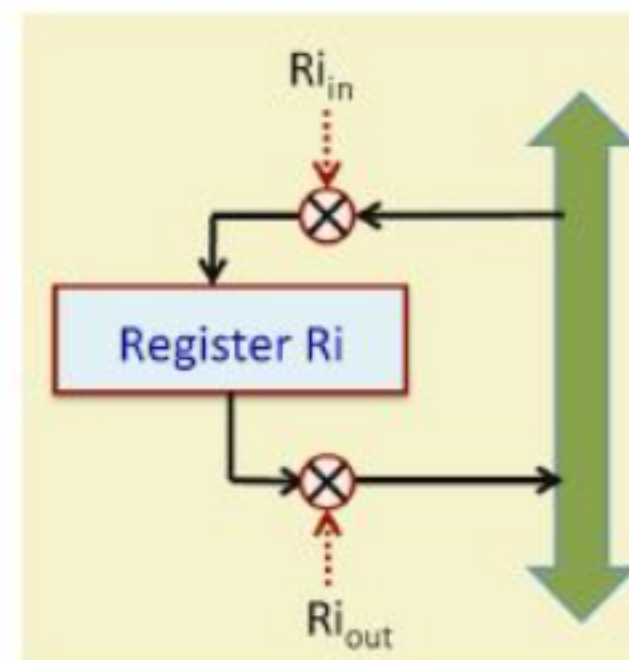
The micro-operation corresponds to which instruction?

- a. ADD Y, R4
- b. ADD R3, Y
- c. ADD R3, R4
- d. MOVE R3, R4

- a.
- b.
- c.
- d.

1 point

- 6) Consider the following scenario where registers R_i is connected through a bus. Assume that R_i is initially loaded with data X . And in bus we have data Y .



What will happen if $R_{i_{in}} = 1$ is applied?

- a. The content of R_1 will become Y
- b. Data X will be placed on the bus.
- c. R_1 will be loaded with Y and, bus will be loaded with X .
- d. The content of R_1 and Bus will be unchanged.

- a.
- b.
- c.
- d.

- Not sure 7) Which of the following statement(s) is/are true for fetching a word from memory?

1 point

- a. The word can be directly loaded to general purpose registers from memory.
- b. The information to be fetched, must be an instruction/operand.
- c. The word can be directly transferred to ALU for further operation.
- d. All of these.

- a.
- b.
- c.
- d.

8) Consider a single bus system, how many steps will be required to complete the instruction
MOVE R1, R2

1 point

- a. 2
- b. 3
- c. 4
- d. 5

- a.
- b.
- c.
- d.

9) Consider a hardwired control unit where each instruction of the machine requires maximum of 50 steps to complete its execution. If the total number of such instructions are 129, what should be the size of step decoder and instruction decoder respectively?

1 point

- a. 6x64; 7x128
- b. 50x1; 129x1
- c. 64x1, 256x1
- d. 6x64, 8x256

- a.
- b.
- c.
- d.

10) Which of the following statement(s) is/are true for micro-programed control unit?

1 point

- a. The control signals are generated by circuits such as encoder, decoder etc.
- b. It is flexible for modification.
- c. It is used in CISC architecture.
- d. All of these

- a.
- b.
- c.
- d.

You may submit any number of times before the due date. The final submission will be considered for grading.

Submit Answers

All the answers are confirmed from our side if anybody have doubt in any of these question kindly contact us

Ashu: 8437102100

Anmol: 8699731262