

Institute of Information Technology
Jahangirnagar University, Savar, Dhaka-1342

Tutorial-01 Course Code: ICT-2207
Marks: 10 Time: 20 Minutes

Answer the Questions & Upload the Scanned Copy on the Google Classroom. No consideration for any unfair activities.

1. Fig-a

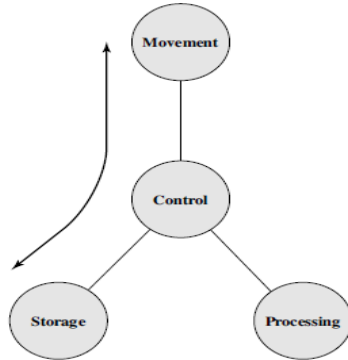
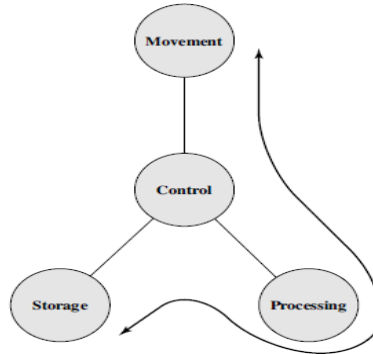


Fig-b



Explain Fig-a and Fig-b in-terms of functionality in your own words.

[2]

2. To perform the execution of an instruction, in addition to the arithmetic logic unit, and control unit, the processor contains a number of registers including: PC, IR, MAR, MBR. What are the usage of these registers? [2]
3. Illustrate Von-Neumann model of system architecture. [2]
4. Consider two different machines with two different instruction set, both having clock rate 250 MHz. Measurements on benchmark programs are given below: [4]

	Instruction Type	Instruction Count	CPI
Machine-1	Integer Arithmetic	50000	1
	Load & Store	40000	3
	Control Transfer	30000	2
Machine-2	Integer Arithmetic	45000	2
	Load & Store	35000	3
	Control Transfer	30000	2

Compare the performance of two machines considering effective CPI, MIPS_rate & execution time. Have some comments by yourself based on the comparison result.