## DOWNLOAD THIS FREE AT

## www.vturesource.com



USN				N	2	1 - 3	8			
-----	--	--	--	---	---	-------	---	--	--	--

15CS72

# Seventh Semester B.E. Degree Examination, Dec.2019/Jan.2020 Advanced Computer Architecture

Time: 3 hrs. Max. Marks: 80

Note: Answer any FIVE full questions, choosing ONE full question from each module.

#### Module-1

- a. With a neat diagram explain the elements of modern computer system.
   b. Explain Flynn's classification of computer architecture.

  (08 Marks)
  (08 Marks)
  - OR
- a. Define data dependency. Explain different functions of data dependency with the help of dependency graph.
   (08 Marks)
  - b. A 4 MHz processor was used to execute a benchmark program with the following instruction mix and clock cycle counts.

Instruction type	Instruction count	Cycles/instruction
Integer arithmetic	45000	1
Data transfer	32000	2
Floating point	15000	2
Control transfer	8000	2

Determine the effective CPI, MIPS rate and execution time for this program.

(08 Marks)

#### Module-2

- 3 a. Explain the architecture of VLIW processor and its pipeline operations. (08 Marks)
  - Explain the inclusion property and locality of reference along with its types in multilevel memory hierarchy. (08 Marks)

#### OR

- 4 a. Explain page replacement policies with the help of an example.

  b. Give the characteristics of symbolic processors.

  (08 Marks)

### Module-3

- 5 a. Explain bus arbitration and its types in multiprocessor systems. (08 Marks)
  b. Explain any two mapping techniques. (08 Marks)
  - OR
- 6 a. Explain the following terms associated with cache and memory architecture:
  - (i) Low order memory interleaving
  - (ii) Atomic v/s non-atomic memory
  - (iii) Physical address cache vs virtual address cache
  - (iv) Memory bandwidth and fault tolerance.

(08 Marks)

1 of 2

www.vturesource.com

ALL BRANCHES | ALL SEMESTERS | NOTES | QUESTON PAPERS | LAB MANUALS

A Vturesource Go Green initiative