

**B.TECH. COMPUTER SCIENCE AND
ENGINEERING (BTCSEVI)**

Term-End Examination

December, 2013

BICS-022 : COMPUTER ARCHITECTURE

Time : 3 hours

Maximum Marks : 70

Note : (i) Attempt *any seven* questions.

(ii) Each question carry *equal* marks.

1. (a) On what factors does Flynn's classifications of computer is based ? Explain the categories. 5
- (b) What are the two factors that speedup depends on ? 5
2. (a) Explain pipeline scheduling in details. 5
- (b) List various memory issues in multicore processor based system. 5
3. (a) Explain the mechanisms for Instruction Pipelining. 5
- (b) Define Dynamic Instruction Scheduling with example. 5
4. What are the problem faced by Super Scalar Architecture ? How are these problem removed in VLIW architecture ? 10

5. (a) Explain the significance of Amdahl's law for a multiprocessor system. 5
- (b) Explain the snoopy bus protocols for bus connected computer system. 5
6. Discuss the utility of RISC and CISC Architecture by comparing their various features. 10
7. Show with timing diagram instances of synchronous bus output to a slave from a bus master. 10
8. (a) Describe static scheduling with an example. 5
- (b) How many switch points are there in a cross-bar switch network that connects P processors to m memory module ? 5
9. Distinguish between multiprocessors and multicomputers based on their structures, resource sharing and Interprocessor communication. 10
10. Explain **any two** of the following : 5x2=10
- (a) Thread level parallelism.
- (b) Virtual memory.
- (c) Tomasulo's Algorithm.
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