

CS - 605 (GS)
B.E. VI Semester Examination, June 2020
Grading System (GS)
Advance Computer Architecture

Time : Three Hours

Maximum Marks : 70

Note: i) Attempt any five questions.
ii) All questions carry equal marks.

1. Explain in detail the various performance metrics for communication mechanisms and discuss their advantages and challenges of parallel processing.
2. Explain the inclusion property and memory coherence requirements in a multilevel memory hierarchy. Distinguish between write through and write back policies in maintaining coherence in adjacent levels.
3. Explain the following terms to measure performance of computer system:
 - i) Clock rate and CPI
 - ii) MIPS (Million Instruction Per Second) rate
 - iii) Throughput rate
 - iv) Performance factor
4. Write short note on:(Any two)
 - a) Data parallel model
 - b) Parallel programming environment
 - c) Functional and logic models
5.
 - a) Explain data and resource dependence in detail.
 - b) Explain RISC and CISC scalar processors.
6. Explain how thread level parallelism within a processor can be exploited? With suitable diagrams, explain simultaneous multithreading, its design challenges and potential performance enhancement.
7. Explain the following terminologies associated with SIMD computers.
 - i) Cube routing function
 - ii) Mesh-Connected Illiac network
 - iii) Shuffle exchange and omega networks
8. Explain in detail the various pipeline hazards and methods to overcome.
