CP 5152 Advanced Computer Architecture

Important 2 Mark Questions

Unit I

1. Define dynamic scheduling.
2. List the limitations ILP.
3. Define: Instruction level parallelism.
4. Define: Dynamic scheduling.
5. List the challenges in exposing instruction level parallelism.
6. Differentiate coarse grained and fine-grained multithreading.
7. What is an instruction register?
8. Give the formula for CPU execution time for a program.
9. List the major components of a computer system.
10. State the need for indirect addressing mode. Give an example.

Unit II

1. List any four techniques used for cache optimization.
2. State the need for virtual memory.
3. Distinguish between Virtual Memory and Virtual Machine.
4. What are the ways in which performance of cache memory can be increased?
5. When do we say that a cache block is exclusive?
6. What happens when a private and shared item are cached?
7. What is a guard bit and what are the ways to truncate the guard bits?
8. What is arithmetic overflow?
9. Subtract $(11010)_2 - (10000)_2$ using $1's$ complement and $2's$ complement method.
10. Write the rules to perform addition on floating point numbers.

Unit III

1. Define Cache coherence problem.
2. State the types of Interconnection networks.
3. Define multistage Interconnection Network with an example.
4. Give the difference between Centralized and symmetric shared memory.
5. List the disadvantages of using symmetric shared memory.
6. What are the issues that occur with cache coherence?
7. What is meant by pipeline bubble?
8. What is a data path?
9. Name the control signals required to perform arithmetic operations.
10. Define hazard. Give an example for data hazard.

Unit IV

1. Draw the diagram of homogeneous multicore architecture.
2. What is meant by scale computer?
3. State some unique features of IBM cell architecture.
4. State the salient features of Cloud computing.
5. In what way is multicore processor superior to single core processor?
6. Define the effectiveness of power utilization.
7. What is instruction level parallelism?

Unit V

1. Define: SIMD.
2. State the need for Graphic processing unit.
3. Define GPGPU computing.
4. Give the real time examples as how SIMD is extended in multimedia.
5. Highlight the improvements obtained with graphics processing units.
6. Compare scalar and vector processors.
7. What is meant by address mapping?
8. What is cache memory?
9. Define memory interleaving.
10. Summarize the sequence of events involved in handling an interrupt request from a single device.