Course Code & Name:**CS701 Advanced Computer Architecture**	*DACOE/ACADM/COF-FRM-06*
Program: **Computer Science & Engineering** Semester: **VII**	*COF-FRM-06- Rev. No: 0 Date:*

Tutorial Questions(2023-24)

Assignment Questions:

Tutorial No.	Assignment Questions	CO Mapped
1	1. List and explain the parallel processing mechanisms in uniprocessor computers.	1
	2. Compare different architectural classification schemes.	1
	3. Explain functional structure of an SIMD array processor.	1
	4. Explain Array Processor?	1
	5. What are the various Parallel Computer Structures?	1
2	1. What is dependability? State different measures of dependability. How MTBF is measured?	1
	2. Explain how to evaluate cost of integrated circuit?	
	3. What are the Trends in Power and Energy in Integrated Circuits	1
	4. Explain with neat diagram basic structure of linear pipelining.	2
	5. Explain handler classification scheme for pipeline processors according to levels of processing?	2
3	1. Compare the advantages and disadvantages of the interleaved memory organization	2
	2. Explain Classification of Pipelined Processors.	2
	3. Explain the use of simple compiler technology to enhance processor ability.	2
	4. Explain hazard detection and resolution.	2
4	1. What are the major categories of advanced optimization of cache performance?	3
	2. Explain six basic cache optimizations.	3
	3. List out ten advanced optimizations of cache performance and describe the optimization techniques that help to improve the hit time.	3
	4. What are the cache optimizations that affect the miss rate and miss penalty? Explain with example.	3
	5. Explain the set associative scheme of placing the block in a cache.	3
5	1. Explain characteristics of vector processing.	4
	2. What is Vector Operand? Explain the classification of vector instructions into four primitive types with example.	4
	3. Illustrate functional block diagram of a modern multiple-	4

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	pipeline vector computer.	
	4. State the three types of pipelined vector processing methods and explain the horizontal vector processing method with example.	4
	5. Write short note on vector architecture.	
	6. Describe and compare associative processors and associative memory organization	4
6	1. Why array processor called as SIMD array computers?	5
	2. Describe masking and data-routing mechanisms.	5
	3. Explain NVIDA GPU Computational structures.	5
	4. List out NVIDA GPU Instruction set Architecture	5
	5. Write short note on conditional branching in GPUs	5
7	1. Draw and explain GPU memory structure	5
	2. Draw and explain basic structure of a centralized shared memory Architecture	6
	3. What are the factors that influence parallel processing?	6
	4. What is cache coherence and why it is important in shared memory multiprocessors system?	3
	5. What is multiprocessor cache coherence?	6
8	1. What is cache coherence protocol? Explain the two classes of cache coherence protocols	6
	2. Explain the basic structure of a centralized shared-memory multiprocessor based on a multicore chip.	6
	3. What is the significance of directory cache coherence protocol?	6
	4. What are the basic schemes in enforcing coherence?	6
	5. Write short note on snooping coherence protocols.	6

Course Coordinator **HOD**