

Code No: 155AA

**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD****B. Tech III Year I Semester Examinations, August - 2022****ADVANCED COMPUTER ARCHITECTURE****(Computer Science and Engineering)****Time: 3 Hours****Max. Marks: 75**

**Answer any five questions**  
**All questions carry equal marks**

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- 1.a) Describe various shared-memory multiprocessor models in detail.
- b) Explain the layered development of parallel computers. [8+7]
- 2.a) Illustrate with an example detection of parallelism in a program using Bernstein's condition.
- b) Distinguish between control flow and data flow architectures. [8+7]
- 3.a) What are various scalability metrics? Explain.
- b) What do you mean by efficiency, utilization and quality of parallelism? Explain. [8+7]
- 4.a) Distinguish between RISC and CISC architectures.
- b) What do you mean by inclusion, coherence and locality? Explain. [8+7]
- 5.a) Explain backplane bus specification.
- b) Explain interleaved memory organization in detail. [8+7]
- 6.a) Explain various branch handling techniques in instruction pipeline.
- b) Describe sequential consistency model. [8+7]
- 7.a) Explain snoopy bus protocol.
- b) What are compound vector operations? Explain with an example. [8+7]
- 8.a) What do you mean by shared virtual memory? Explain.
- b) What are various issues in multithreading? Explain. [8+7]

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