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Roll No.

322732(22)

**B. E. (Seventh Semester) Examination,
April-May 2021**

(New Scheme)

(CSE Branch)

PARALLEL PROCESSOR & COMPUTING

Time Allowed : Three hours

Maximum Marks : 80

Minimum Pass Marks : 28

Note : Attempt all the questions. Part (a) from each question is compulsory. Attempt any two parts from parts (b), (c) and (d) of each question.

Unit-I

1. (a) Define Amdahl's law? 2

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- (b) What is Cache coherence and Cache coherence protocol? 7
- (c) Explain hardware and software method of implementing parallelism in uniprocessor system. 7
- (d) Explain Flynn's classification with neat sketch. 7

Unit-II

2. (a) Write down the necessary condition of parallelism. 2
- (b) Write difference between control flow and data flow computers. 7
- (c) Explain VLIW computer. 7
- (d) Explain the architecture of CRAY-1 computer with diagram. 7

Unit-III

3. (a) What is PRAM Model? 2
- (b) Write short notes on : 7
- (i) Shuffle and shuffle exchange
- (ii) Worm hall routing algorithm

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- (c) Write and explain greedy algorithm with example. 7
- (d) Explain 2D Mesh architecture with data routing procedure. 7

Unit-IV

4. (a) What is Emulation? 2
- (b) Explain defect level method and fault level method. 7
- (c) Explain in detail about multithreading and latency hiding. 7
- (d) Write short notes on : 7
- (i) Parallel I/O Technology
- (ii) Parallel O.S.

Unit-V

5. (a) What is UMA? 2
- (b) Explain the architecture of MIN based BBN butterfly. 7
- (c) Write the features of CC-NUMA Stanford DASH computers. 7

(d) Write short notes on : 7

(i) Data parallel SIMD machine

(ii) Shared Memory MIMD machine