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Roll No. ....

**322732(22)**

**B. E. (Seventh Semester) Examination, Nov.-Dec. 2021**

**(New Scheme)**

**(CSE Branch)**

**PARALLEL PROCESSOR & COMPUTING**

***Time Allowed : Three hours***

***Maximum Marks : 80***

***Minimum Pass Marks : 28***

***Note : Part (a) of each question is compulsory carrying 2 marks. Solve any two parts from (b), (c) and (d) carrying 7 marks.***

**Unit-I**

1. (a) What is SIMD?

2

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- (b) Derive Amdahl's Law. 7
- (c) Explain Flynn's classification with suitable diagram? 7
- (d) What is Cache Coherence problem? Write about any Cache Coherence problem. 7

**Unit-II**

2. (a) Write Bernstein's condition of parallelism. 2
- (b) Write least five differences between control flow and data flow computers. 7
- (c) Explain pipeline hazards in brief. 7
- (d) Explain architecture of Cray-1. 7

**Unit-III**

3. (a) What is PRAM? 2
- (b) Write Wormhole Routing algorithm. 7
- (c) Explain Hyper Cube Network with suitable diagram. 7
- (d) Draw and explain shuffle and shuffle exchange network. 7

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**Unit-IV**

4. (a) What is Scheduling? 2
- (b) Write short notes on : 7
- (i) Defect Level Methods
- (ii) Fault Level methods
- (c) What is emulation? Describe emulation among architectures. 7
- (d) Explain concept of distributed shared memory. 7

**Unit-V**

5. (a) Explain memory hierarchy. 2
- (b) Explain CC-NUMA standford DASH system. 7
- (c) Explain message-passing MIMD Machine. 7
- (d) Draw and explain MIN-based BBN Butterfly. 7