

**322752(22)**

**B. E. (Seventh Semester) Examination, 2020**

APR-MAY

**(Old Scheme)**

**(Computer Science and Engg. Branch)**

**ADVANCED COMPUTER ARCHITECTURE**

***Time Allowed : Three hours***

***Maximum Marks : 80***

***Minimum Pass Marks : 28***

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

**Unit-I**

1. (a) Explain linear pipeline processor in brief. 2
- (b) Explain the working of Non-linear pipeline with suitable example. 7

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- (c) Explain Arithmetic pipeline design in brief. 7
- (d) Write short note on super scalar processor. 7

**Unit-II**

2. (a) Discuss about cache coherence problem. 2
- (b) What do you mean by cache in consistency? Also explain cache coherence protocols. 7
- (c) Discuss about memory interleaving techniques. Explain any one in detail. 7
- (d) What do you mean by back plane system? Discuss about future bus standards. 7

**Unit-III**

3. (a) Explain Latency. 2
- (b) What do you understand by hardware and software parallelism? 7
- (c) Explain data & resource dependencies with suitable example. 7

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- (d) Discuss about classification of computers Explain FLYNN's classification. 7

**Unit-IV**

4. (a) What do you understand by vector processing? 2
- (b) Explain about various types of vector instruction. 7
- (c) Explain CM-5 architecture with diagram & functional components. 7
- (d) What do you mean by parallel algorithm? Give the requirement & characteristics of parallel algorithm. 7

**Unit-V**

5. (a) Define node degree & network diameter. 2
- (b) Discuss about static & dynamic inter-connection network. 7
- (c) Discuss omega network with suitable diagram. State its utilization in parallel architecture. 7

(d) Write short notes on : 7

(i) Baseline N/W

(ii) Perfect shuffle & Inverse perfect shuffle