

No. of Printed Pages : 03

Roll No.

W-604

B. Tech. EXAMINATION, Dec. 2017

(Sixth Semester)

(Weekend) (Re-appear Only)

(CSE)

CSE-W-306

ADVANCED COMPUTER ARCHITECTURE

Time : 3 Hours]

[Maximum Marks : 100

Before answering the question-paper candidates should ensure that they have been supplied to correct and complete question-paper. No complaint, in this regard, will be entertained after the examination.

Note : Attempt any *Five* questions. All questions carry equal marks.

1. (a) Explain with the help of diagram the instruction execution timings. **10**

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- (b) What are different types of addressing modes ? Why are they needed ? **10**
2. What are the different phases of a processor's life-cycle ? Write and briefly explain some of the state-of-the-art processors of today. **20**
3. (a) Explain the difference between cold and warm cache. **5**
- (b) Explain the working principle of write assembly cache. Mention its advantages and disadvantages. **15**
4. (a) What are the advantages of splitting cache into I-cache and D-cache ? **10**
- (b) Explain any *three* line replacement strategies at miss time. **10**
5. (a) How the concept of colored pages is used in physically addressed caches ? Explain its pros and cons. **10**
- (b) What is associative memory ? Derive match logic for one word of associative memory. **10**

6. (a) What are the advantages and disadvantages of write through and copy back schemes for cache. **10**
- (b) Discuss the Rau's model for processor memory interaction. **10**
7. How the issue of memory coherence is dealt in multiprocessor systems ? Discuss any *two* snoopy protocols. **20**
8. Briefly discuss the following with example :
- (i) Effect of branching on parallel processing **10**
- (ii) Static Networks. **10**