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D-C-190192

B. Tech. EXAMINATION, 2019

Semester VII (CBS)

ADVANCE COMPUTER ARCHITECTURE

CS-701

Time : 3 Hours *Maximum Marks : 60*

The candidates shall limit their answers precisely within the answer-book (40 pages) issued to them and no supplementary/continuation sheet will be issued.

Note : Attempt *Five* questions in all, selecting *one* question from each Section A, B, C and D. Q. No. **1** is compulsory.

(Compulsory Question)

1. Attempt all questions :

(i) Describe Flynn's classification of parallel computers.

(ii) What are data dependences and hazards ?

(iii) What is the associative mapping technique ?

(iv) What is Multiport Network ?

(v) What is Memory Interleaving Technique ?

(vi) What is a main advantage of classical vector systems compared to RISC based systems ?

(vii) What are limitations of instruction level parallelism ?

(viii) What do you mean by "Data Flow Computer" ?

(ix) Define Sequential Consistency.

(x) What are the various levels of RAID ?

10×2=20

Section A

2. What are the different architectural models for multiprocessor ? Explain each of them with suitable example. **10**

3. With simple diagram, explain data flow architecture and compare it with control flow architecture. **10**

Section B

4. Describe different techniques to reduce Miss Penalty and Miss Rate. Compare about superscalar, super-pipeline and VLIW techniques. **10**

5. Both vector processors and array processors are specialized to operate on vectors. What are the main differences between them ? **10**

Section C

6. What are strip mining and vector in respect of vector processors ? What is multistage switching network ? **10**

7. What are the similarities and dissimilarities between multiprocessor system and multiple computer system ? Write a short note on Message passing multiprocessors. **10**

Section D

8. What is Cache Coherence ? How can this problem be overcome ? **10**

9. Compare between centralized and distributed shared memory architecture. Which is the best architecture among them and why ? **10**