[Total No. of Questions - 9] [Total No. of Printed Pages - 2]

Dec.-22-0307

CS-701 (Advance Computer Architecture)

B.Tech. 7th (CBCS)

Time : 3 Hours Max. 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 at least one question from each unit. Question No. 9 is compulsory.

UNIT - I

1. What is multiprocessor and multicomputer? Explain in detail SIMD and MIMD Model. (10)

2. How parallelism improved performance and how it implements? Explain data and resource dependencies with example. (10)

UNIT - II

3. What are scalability metrics and goals of parallelism? Explain Gustafson's law for scaled problem. (10)

4. What is instruction set architecture? Explain with example. (10)

UNIT - III

5. What is vector processing principles? Explain vector access memory schemes in detail. (10)

6. What is Cache coherence problem? Explain snoopy bus protocol. (10)

UNIT - IV

7. What are domain and control decomposition techniques? Explain domain and control decomposition techniques in detail. (10)

8. What is synchronization and multiprocessing modes? Explain various multiprocessor execution models in detail (10)

9. Answer the following questions:

   (a) What is static connection network?

   (b) How system performance is evaluated?

   (c) What are the properties of CISC computer?

   (d) What is the data flow of system?

   (e) What is response time and throughput?

   (f) Why compilation is optimized?

   (g) What are principles of synchronization?

   (h) What are optimization techniques of cache coherence?

   (i) What is MPP?

   (j) What is a system and parameter of performance evaluation? (10×2=20)