[Total No. of Questions - 9] [Total No. of Printed Pages - 2]
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M. Tech 1st Semester Examination

Computer Architecture and Parallel Processing

CSE1-511/MT-101

Time : 3 Hours Max. Marks : 100

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 any one question from section A, B, C and D. Section E is compulsory.

SECTION - A

1. Explain any five arithmetic and shift micro operations with their syntax and example. **(20)**

2. What is the difference between register and accumulator? Explain the design of accumulator logic. **(20)**

SECTION - B

3. What is the difference between micro instruction and micro operation? Explain any five symbolic microinstructions. **(20)**

4. What is the difference between PRAM and VLSI? Explain any one model in detail. **(20)**

SECTION - C

5. What is parallelism and what are the conditions of parallelism? Explain any one speedup performance law. **(20)**

6. What is the difference between superscalar and vector processor? Explain any one in detail. **(20)**

SECTION - D

7. Explain the memory hierarchy technology. **(20)**

8. (a) Explain the differences between linear and non linear pipeline processor.

   (b) Explain the generations of multicomputer. **(20)**

SECTION - E

9. (a) What is address sequencing?

   (b) Why we use Cache?

   (c) What do you mean by SIMD?

   (d) What is instruction format?

   (e) What is the use of MRIs?

   (f) What is the use of shared memory?

   (g) What is Multiprocessing?

   (h) What are the capabilities of message passing machines?

   (i) What are the features of control unit?

   (j) What are various performance metrics? **(2×10=20)**