Roll No. | | | | | | | | | | | | Total No. of Pages : 02

Total No. of Questions : 09

B.Tech.(IT) (Sem.–5th)

# PARALLEL ARCHITECTURE AND COMPUTING

Subject Code : IT-309

Paper ID : [A0518]

Time : 3 Hrs. Max. Marks : 60

**INSTRUCTION TO CANDIDATES :**

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains FIVE questions carrying FIVE marks each and students has to attempt any FOUR questions.**
3. **SECTION-C contains THREE questions carrying TEN marks each and students has to attempt any TWO questions.**

## SECTION-A

1. Write briefly :

a) What are advantages of pipelining?

b) What is Reservation Table?

c) Discuss the Amdahl's law.

d) What is Multi Threading?

e) Differentiate between parallel computing and distributed computing.

f) Discuss the use of parallel architecture.

g) What are the advantages of shared memory?

h) What are Cost Optimal Algorithms?

i) What are Systolic Arrays?

j) Define Brent's theorem.

## SECTION-B

2. Define :

   a) Instruction pipeline

   b) Multicache memory

3. Differentiate between uniform and non uniform memory access.

4. Write the data and control hazards and methods to remove them.

5. Explain load balancing in multiprocessor system.

6. Write the procedure of data routing in interconnection of networks.

## SECTION-C

7. Discuss types of Parallel Architecture according to the Flynn's classification.

8. Illustrate the concept of relative powers of various PRAM models.

9. Discuss various algorithms for Multiprocessor systems.