

Roll No.

Total No. of Questions : 09]

[Total No. of Pages : 02

B. Tech. (Sem. - 5th)

PARALLEL ARCHITECTURE AND COMPUTING

SUBJECT CODE : IT - 309

Paper ID : [A0518]

[Note : Please fill subject code and paper ID on OMR]

Time : 03 Hours

Maximum Marks : 60

Instruction to Candidates:

- 1) Section - A is **Compulsory**.
- 2) Attempt any **Four** questions from Section - B.
- 3) Attempt any **Two** questions from Section - C.

Section - A

Q1)

(10 × 2 = 20)

- a) Explain Amdahl's law briefly.
- b) What do you mean by critical path?
- c) What are Vector Processors?
- d) What do you mean by load balancing in multi-processor systems?
- e) Define Brent's Theorem.
- f) Differentiate control and data hazards?
- g) When is the maximum limit for pipelining reached?
- h) What is Flynn's classification of parallel computers?
- i) What do you mean by parallel merge.
- j) Briefly describe the difference between SIMD and MIMD?

M-172/1859]

P.T.O.

Section - B

(4 × 5 = 20)

- Q2) Discuss the various methods to remove control and data hazards.
- Q3) Describe the PRAM model and its variations.
- Q4) Describe how the optimum scheduling is achieved in multi processor systems.
- Q5) Explain the NC class of parallel algorithms.
- Q6) Describe the various interconnection networks in array processors.

Section - C

(2 × 10 = 20)

- Q7) Describe the relative powers of various PRAM models in detail.
- Q8) Describe the construction strategy for representing PRAM algorithm.
- Q9) Write short notes on the following:
- (a) Parallel List ranking.
 - (b) Hndler's Classification of Parallel computers.

