

Roll No.

Total No. of Questions : 09]

[Total No. of Pages : 02

B.Tech. (Sem. - 5th)
PARALLEL ARCHITECTURE & 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

(10 × 2 = 20)

Q1)

- a) Define amdahl's law.
- b) What is SIMD?
- c) What is parallel prefix computing?
- d) What is scheduling?
- e) What do you mean parallel merge?
- f) What is multiprocessor system?
- g) Define MIMD.
- h) What is parallel processing?
- i) What is multistage interconnection Network? Where do we use?
- j) What do you mean by cost optimization?

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Section - B

(4 × 5 = 20)

- Q2) What is the basic construction of representing PRAM algorithm? Explain.
- Q3) What do you mean by NC class of parallel algorithms? Discuss.
- Q4) Explain the PRAM model.
- Q5) Explain the concept of load balancing in multiprocessors system.
- Q6) Explain the Flynn's and Handler's classification.

Section - C

(2 × 10 = 20)

- Q7) Explain the instruction pipeline, reservation table and data control hazards of pipelined processor.
- Q8) Explain the difference between Uniform vs Non Uniform memory access multi processors.
- Q9) What are the advantages of Interconnection Network? What are various Interconnection Networks? Explain the data routing through atleast three Interconnection Networks. (by taking 8×8 networks)

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