

**M. SC. (Computer Science) SEM – I (Choice Based Credit & Grade System) : SUMMER - 2019**

**SUBJECT: ELECTIVE-I: a) PARALLEL PROCESSING**

Day: Monday  
Date: 15/04/2019

Time: 03.00 PM TO 06.00 PM  
Max. Marks: 60

**S-2019-1245**

**N.B:**

- 1) All questions are **COMPULSORY**.
- 2) Figures to the right indicate **FULL** marks.

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**Q.1** Explain message passing interface. Also explain message passing interface models. (15)

**OR**

What is hypercube algorithm? Explain vector reduction and matrix transposition algorithms.

**Q.2** A) Answer **ANY ONE** of the following: (08)

- a) Explain data distribution and concurrency.
- b) Discuss parallel programming model.

**B)** Answer **ANY ONE** of the following: (07)

- a) Discuss motivation of parallelism.
- b) Explain current trends in parallel processing.

**Q.3** Answer **ANY THREE** of the following: (15)

- a) Explain scope of parallel computing.
- b) Discuss one example on modularity and parallel computing.
- c) Explain review on compositional C++.
- d) What do you mean by Agglomeration?
- e) Discuss HPF performance issues.

**Q.4** Write short notes on **ANY THREE** of the following: (15)

- a) Random numbers
- b) Distributed computing
- c) Analytical tools
- d) Merge sort
- e) Communication cost model

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