Total No. of Questions: 8 Seat No.

BE/PRELIM/MAY –23

**B.E. (Computer Engineering)**

High Performance Computing (2019 Pattern) (Semester - II) (410250)

Time :2 1/2 Hour] [Max. Marks: 70]

Instructions to the candidates:

1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Assume suitable data wherever necessary.
4. Draw Neat diagrams wherever necessary.

Q.1 Explain Broadcast and reduction for multiplying matrix with vector. [9]

Q.2 Explain circular shift operation on mesh and hyper cube network. [8]

Q.3 Interpret the effect of Granularity on performance parallel execution. [9]

Q.4 Explain parallel matrix matrix multiplication algorithm with example. [9 ]

Q.5 Explain how CUDA C program executes at the kernel level with example [9]

Q.6 Design a simple CUDA kernel function to multiply two integers. [8]

Q.7 Discuss the issues in sorting for parallel computers. [9]

Q.8 Modify Depth first search for parallel execution and analyze its complexity [9]

**\*\*\*\*\*\* All The Best \*\*\*\*\*\***