

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -3 EXAMINATION- 2018

B-Tech (8rd SEM)

COURSE CODE: 14M1WCI433

MAX. MARKS: 35

COURSE NAME: Parallel Programming Techniques

COURSE CREDITS: 3

MAX. TIME: 2 Hrs

Note: All questions are compulsory. Carrying of mobile phone during examinations will be treated as case of unfair means. All questions are compulsory

- Q1. [CO 1 & CO 2] [2x 3 Marks]
- Define isoefficiency and cost efficiency for a parallel program?
 - Explain recursive decomposition for a program with high fictional decomposition ?
- Q2. Explain various types of load balancing and termination detection techniques for parallel programming? Explain advantages and disadvantages of centralized and decentralized load balancing techniques? [CO 4] [5 Marks]
- Q3. Design a parallel program for parallel quick sort and suggest a suitable parallel programming technique? Find parallel execution time, speedup and check whether it is cost efficient or not? [CO 3] [7 Marks]
- Q4. [CO 6] [7 Marks]
- Explain various communication operations in MPI programming with example?
 - Differentiate between the following with example:
 - MPI_Reduce & MPI_Gather and its benefits?
 - MPI_Bcast & MPI_Scatter?
- Q5. [CO 5] [7 Marks]
- Design CUDA program to perform sentimental analyses and find positive and negative sentences over a database on a bank of 10^9 sentences? Find the speed up and efficiency over serial programming?
 - Explain with example the benefits of synchronization and shared memory in CUDA programming? [CO 5] [3 Marks]