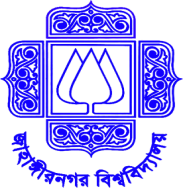
** Jahangirnagar University**

**PMSCS Final Examination**

**Fall-2021**

**Department of Computer Science and Engineering**

**Code: PMSCS-657 Course: Parallel and Distributed computing**

**Full Marks: 30 Duration: 1.5Hours**

***Answer any Three(3) of the following questions:***

|  |  |  |
| --- | --- | --- |
| 1.a) | How can you define Parallelism? Describe briefly different types of parallelism with example. | 6 |
| b) | Write short notes on: a) Message passing protocol b) MPI point-to-point communication. | 4 |
| 2.a) | How can you define butterfly network? Give an example using diagram of a butterfly network with k=3. Explain the logic of connecting the following nodes. (0,1), (2,4), (2,3), (3,2). | 6 |
| b) | Name and define different type of scalability of parallel algorithms | 4 |
| 3.a) | What do you mean by inter process communication in parallel machine? Explain the shared memory conflicts in inter process communication. How it can be solved? | 6 |
| b) | Show the steps to get a *necklace* of a shuffle exchange network with k=4 | 4 |
| 4.a) | How Distributed systems are organized by considering where software components are placed. Explain this organization using an appropriate example. | 6 |
| b) | Name and define the layers in a grid computing system with diagram. | 4 |