**Registration No :** | | | | | | | | | | |

**Total Number of Pages : 01** **M.Sc.I**

**FBEF1011**

**10th Semester Regular Examination 2018-19**
**PARALLEL & DISTRIBUTED COMPUTING**
**BRANCH : M.Sc.I(MC)**
**Max Marks : 70**
**Time : 3 Hours**
**Q.CODE : F072**

**Answer Question No.1 which is compulsory and any FIVE from the rest.**
**The figures in the right hand margin indicate marks.**

**Q1** **Answer the following questions :** **(2 x 10)**

**a)** What is Parallel Computing? What are the advantages of using it?
**b)** Define Latency and Bandwidth of memory.
**c)** Explain the term Granularity.
**d)** What are the major performance metrics for characterizing an interconnection network?
**e)** Explain parallel execution.
**f)** What is non uniform memory access?
**g)** Define cache coherent.
**h)** What is asymptotic analysis of parallel program?
**i)** What is All-to-All personalized communication?
**j)** Define the metric “Speed Up”. How this is used for parallel program?

**Q2** **a)** What are the disadvantages of automatic parallelism? **(5)**
**b)** How to partition computational work among parallel task? **(5)**

**Q3** **a)** Explain efficiency in communication. **(5)**
**b)** What is data dependencies and how to overcome data dependencies? **(5)**

**Q4** **a)** What is static and dynamic mapping technique, explain with example? **(5)**
**b)** Compare One-to-All Broadcast and All-to-One reduction. **(5)**

**Q5** **a)** Explain message passing platform for parallel system. **(5)**
**b)** Explain fine grain parallelism. **(5)**

**Q6** What is task decomposition? Discuss different types of decomposition. **(10)**

**Q7** Describe a parallel formulation of Matrix-vector multiplication algorithm. **(10)**

**Q8** **Write short answer on any TWO :** **(5 x 2)**

**a)** Amdal’s law.
**b)** Topologies and embedding.
**c)** Limitation of memory system performance.