

M. Tech. –II (Computer Engineering) (CBCS – 2015 Course) :

WINTER - 2018

SUBJECT: HIGH PERFORMANCE COMPUTING

Day: Monday
Date: 19/11/2018

W-2018-3136

Time: 11.00 AM TO 02.00 PM
Max. Marks: 60

N.B.:

- 1) All questions are **COMPULSORY**.
- 2) Figures to the right indicate full marks.
- 3) Assume suitable data wherever necessary.

Q.1 What is pipelining? Explain any one pipelined processor in detail. [10]

OR

What is program profiling? How will you do program profiling in operating system? Explain. [10]

Q.2 Discuss in detail architecture of Cluster Computing Network. [10]

OR

Explain in detail the concept of parallel processing. [10]

Q.3 What are the basic techniques used in parallel models? Explain in detail. [10]

OR

Explain in detail parallel Pseudo-Random Number Generators with suitable example. [10]

SECTION-II

Q.4 What are the parallel primitives used in parallel programming? Explain in detail. [10]

OR

Discuss in detail the synchronization methods used in parallel programming. [10]

Q.5 Explain the term "shared memory symmetric multiprocessors in detail. [10]

OR

Discuss in detail N-wide superscalar architecture. [10]

Q.6 Discuss the term performance metrics and measurements of a HPC system [10]

OR

How will you partition applications for heterogeneous resources to achieve performance? Explain. [10]

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