M. TECH. –II (COMPUTER ENGINEERING) (CBCS – 2015 COURSE) : SUMMER - 2018

SUBJECT: HIGH PERFORMANCE COMPUTING

Day: **Monday** **S-2018-2998** Time: **11.00 AM TO 02.00 PM**

Date: **11/06/2018** 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 hazards? What are the different types of hazards? Explain in detail. **[10]**

OR

What is operating system? What is the necessity of system calls in a system? Explain. **[10]**

Q.2 Explain the concept of parallel processing in detail with suitable example. **[10]**

OR

What is cluster? What are the benefits of cluster in a system architecture? Explain duster computing network. **[10]**

OR

Q.3 Discuss in detail the ideal and real frameworks of parallel models. **[10]**

OR

Explain in detail Monte-Carlo techniques with suitable example. **[10]**

SECTION-II

Q.4 How will you reveal concurrency in applications? Explain with suitable example. **[10]**

OR

How will you achieve task and functional parallelism? Explain with suitable example. **[10]**

Q.5 Explain in detail the memory hierarchies used in high performance computing. **[10]**

OR

Discuss Homogeneous and Heterogeneous high-end computer systems. **[10]**

Q.6 How you identify performance bottlenecks in HPC systems? Explain. **[10]**

OR

What is deep memory? How you restructure applications for deep memory hierarchies? Explain. **[10]**

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