P1507

[5460]-186

T.E. (Computer Engineering)
PRINCIPLES OF CONCURRENT AND DISTRIBUTED PROGRAMMING
(2012 Course) (Semester - II) (End - Semster) (310249)

Time : 2½ Hours]   *[Max. Marks : 70*

Instructions to the candidates:

1) *Answer Questions 1 or, 2, 3 or 4, 5 or 6, 7 or 8, and 9 or 10.*
2) *Neat diagrams must be drawn wherever necessary.*
3) *Figures to the right indicate full marks.*
4) *Assume suitable data if necessary.*

Q1) a) Write a LISP program to reverse a given string without using reverse function. **[6]**

     b) What is Data Flow Variables? Explain in detail. **[4]**

OR

Q2) a) Explain how a file is used for IPC. **[6]**

     b) What are advantages and application of LISP? **[4]**

Q3) a) Explain classification of parallel architecture. **[6]**

     b) Write short note on shared memory. **[4]**

OR

Q4) a) Define Speed up with respect to parallel algorithms. **[6]**

     b) Write a note on Shore's classification. **[4]**

Q5) a) What is DCE? Explain it along with its components. **[8]**

     b) Explain the following terms with respect to operating system: **[8]**

        i) System image.

        ii) Fault Tolerance Capability.

OR

Q6) a) Why is scalability an important feature in the design of a Distributed OS? Discuss the guiding principles for design scalable distributed system.**[8]**

     b) Enlist and explain various models used in distributed computing environment. **[8]**

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Q7) a) Explain the Xen virtual environment and hypervisor. **[8]**

b) Explain Domain0 in Xen. **[4]**

c) What are the advantages of virtualization? **[4]**

Q8) a) Explain virtualization with respect to- **[8]**
   i) Types
   ii) Need
   iii) Advantages
   iv) Limitations

b) Explain difference between para virtualization and full virtualization? **[4]**

c) Why virtual server is used? State its advantages and disadvantages. **[4]**

Q9) a) Write a CUDA program for multiplication of two matrices. **[8]**

b) Write short notes: **[10]**
   i) CUDA threads
   ii) CUDA blocks
   iii) CUDA grids
   iv) CUDA wraps
   Draw the suitable diagram to explain above concepts.

OR

Q10) a) Explain multi-GPU model in single-node systems in CUDA. **[8]**

b) Explain the concept of cloud computing with respect to the following points. **[10]**
   i) Services provided by cloud computing.
   ii) Characteristics
   iii) Types of clouds
   iv) Advantages
   v) Challenges before cloud computing.

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