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

Time :2½Hours]   *[Max. Marks : 70*

Instructions to the candidates:
1) *Answer Q1 or Q2,Q3or Q4, Q5 or Q6 , Q 7 or Q 8, and Q 9 or Q10.*
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 short note on basic user interface elements in GUI model.   **[6]**

   b) Explain shared-state concurrent model.   **[4]**

                                      OR

Q2) a) What are the dependency relationships between two tasks?   **[6]**

   b) What is the structure of a YACC file?   **[4]**

Q3) a) Write short note on shared memory.   **[6]**

   b) Explain various types of parallelism.   **[4]**

                                      OR

Q4) a) Write a note on Handler's classification.   **[6]**

   b) Define speed up with respect to parallel algorithms.   **[4]**

Q5) a) What is DCE? Explain it along with its components.   **[10]**

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

      i)   System image.

      ii) Autonomy

      iii) Fault Tolerance Capability.

                                      OR

P.T.O.

Q6) a) What are various models used in distributed computing environment?**[10]**

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

Q7) a) What is Virtualization? Explain types of virtualization. **[8]**

b) Explain the common approaches to virtual computer systems. **[8]**

OR

Q8) a) What is Xen domain? Also explain hypervisor. **[8]**

b) What are the hardware-related issues that should be considered while specifying the physical systems that will host the virtual machines? **[8]**

Q9) a) Explain global memory in CUDA. **[8]**

b) How CPUs and GPUs are different? **[4]**

c) Write short notes on: **[4]**

CUDA threads

CUDA blocks

OR

*Q10)*a) Explain threads in CUDA. Also explain problem decomposition. **[8]**

b) Explain texture memory in CUDA. **[4]**

c) Write short notes on: **[4]**

• CUDA grids

• CUDA Kernels

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