

Total No. of Questions : 6]

SEAT No. :

P3656

[Total No. of Pages : 2

APR - 15 / Engg. - 141

T.E. (Computer Engineering) (In Sem - Semester - II)
PRINCIPLES OF CONCURRENT AND DISTRIBUTED
PROGRAMMING
(2012 Pattern)

Time : 1 Hour]

[Max. Marks : 30

Instructions to the candidates:

- 1) *Answer Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6.*
- 2) *Neat diagrams must be drawn wherever necessary.*
- 3) *Figures to the right indicate full marks.*
- 4) *Assume suitable data if necessary.*

- Q1)** a) Explain declarative computation model with suitable example. [4]
b) Discuss the features and applications of Lisp. [4]
c) Explain the following methods with respect to MPI Java : - [2]
i) MPI. COMM_WORLD. Send ()
ii) MPI. COMM_WORLD. Receive ().

OR

- Q2)** a) Explain Open CL Programming environment tool for concurrent programming. [4]
b) Explain the following with respect to declarative computational model. [4]
i) The single assignment store.
ii) Data flow variables.
iii) Declarative variables.
iv) Value store.
c) What will be the output of following with respect to LISP. [2]
i) (CAR (CDR (CDR' (P Q R S T))))
ii) (CDR (CAR' (' (P Q) R)))

P.T.O.

- Q3)** a) What are different types of dependencies. Explain with suitable example. [4]
b) What Java interface must be implemented by all threads for multithreading in concurrent Java? Illustrate with suitable example. [3]
c) Write a short note on concurrent grammar. [3]

OR

- Q4)** a) What is process migration? Explain the major steps in process migration and enlist desirable features of a good process migration. [4]
b) Explain how global data, variables are used for Interthread communication with an example. [3]
c) Write a short note on multithreading using Concurrent Lisp. [3]

- Q5)** a) What is CUDA? Draw a diagram showing the details of CUDA hardware. [4]
b) Explain how the performance analysis of parallel algorithm is done. [4]
c) List the various types of parallel architecture and architectural classification scheme. [2]

OR

- Q6)** a) What is synchronization? Describe suitable example of use of synchronization with respect to concurrent Java. [4]
b) What are the properties of object oriented programming model? Explain with suitable example. [4]
c) What is semaphore? Explain how concurrency is achieved with semaphore. [2]

