

Total No. of Questions :10]

SEAT No. :

P3530

[4959]-1170C

[Total No. of Pages :2

B.E. (Computer Engg.)

CONCURRENCY ON OPEN SOURCE SYSTEMS

(Elective - IV) (Open Elective)

(2012 Pattern) (Semester -II) (End Semester) (410452D)

Time : 2½ Hours]

[Max. Marks :70

Instructions to the candidates:

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

Q1) a) Explain concurrency in sequential and distributed computing. **[5]**

b) Explain Android approach to program expression. **[5]**

OR

Q2) a) Explain system software support for converting program expressions to realize program execution model. **[5]**

b) Explain clocking problem in distributed systems. **[5]**

Q3) a) Explain Android architecture. **[4]**

b) Explain deadlocks and starvation of resources in concurrent system. **[6]**

OR

Q4) a) Explain Cigarette Smokers problem. How it is solved using semaphores? **[5]**

b) Explain how RPC is used in concurrent systems. **[5]**

P.T.O.

- Q5)** a) Explain shared memory architectures with example. [10]
b) Compare shared memory programming with distributed memory programming. [8]

OR

- Q6)** a) Explain communicating processes in concurrent system. [6]
b) Explain how client server systems are implemented using RMI. [6]
c) Explain message passing in client server systems. [6]

- Q7)** a) Explain sequential computing. State its drawbacks. [8]
b) Explain graph theoretic models of deadlock. [8]

OR

- Q8)** a) Explain distributed computing. List its advantages. [8]
b) Explain operational semantics of the calculus of communicating systems. [8]

- Q9)** a) Explain CSP primitives and algebraic operators. [6]
b) Model bully algorithm for election using CSP. [10]

OR

- Q10)** a) Explain CSP model of clock synchronization problem. [10]
b) What are the advantages of using CSP model? [6]

