## APR-17/BE/Insem.-90

## B.E. (**Computer Engineering**)

## CONCURRENCY ON OPEN SOURCE SYSTEMS

## (2012 Pattern) (Semester - II) (Open Elective - IV)

*Time : 1 Hour]*                                    *[Max. Marks : 30*

*Instructions to the candidates:*
1) *Answer Q1 or Q2, Q3 or Q4, Q5 or Q6.*
2) *Neat diagrams must be drawn wherever necessary.*
3) *Figures to the right indicate full marks.*
4) *Assume suitable data if necessary.*

*Q1)* a)  What is concurrency? Explain concurrency as a modularization paradigm.
**[4]**

   b)  Explain "Sleeping Barbar" problem.                                    **[3]**

   c)  Explain Android architecture with a block diagram.          **[3]**

### OR

*Q2)* a)  Explain "Dining Philosopher's" problem.                        **[3]**

   b)  Explain solution to "Dining Philosopher's" problem using semaphores.
**[4]**

   c)  What are the challenges in concurrency?                          **[3]**

*Q3)* a)  Explain syntax structure of the CCS calculus.               **[4]**

   b)  Explain the working of RMI.                                            **[3]**

   c)  Write a note on execution of co-routines.                        **[3]**

### OR

*Q4)* a)  Explain various activation techniques of a procedure call.    **[4]**

   b)  Explain deep calls with examples.                                    **[3]**

   c)  Explain Android approach to program expression.          **[3]**

*P.T.O.*

*Q5)* a) State similarities and differences between sequential and concurrent. Execution. **[5]**

b) Write an algorithm for converting a program expression to realize concurrent program execution model. **[5]**

OR

*Q6)* a) Explain context for program execution with an example. **[5]**

b) Explain the concurrent and distributed program execution model. **[5]**

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