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## P.E.S. College of Engineering, Mandya - 571 401

(An Autonomous Institution affiliated to VTU, Belgaum)

**Seventh Semester, B.E. - Computer Science and Engineering**

**Semester End Examination; Dec. - 2015**

**Distributed Operating System**

*Time: 3 hrs*

*Max. Marks: 100*

*Note: Answer any FIVE full questions, selecting at least TWO full questions from each part.*

### PART - A

- |   |    |   |    |
|---|----|---|----|
| 1 | a. | Explain in detail the various distributed computing system models with suitable sketches. | 10 |
|   | b. | Discuss the various issues in designing a distributed operating system.                   | 10 |
| 2 | a. | Briefly discuss the desirable features of a good message passing system.                  | 10 |
|   | b. | Discuss the concept of failure handling in IPC with suitable examples.                    | 10 |
| 3 | a. | Explain in detail the implementation of RPC mechanism with a suitable sketch.             | 10 |
|   | b. | Write short notes on :  |    |
|   |    | i) The request/Reply Protocol   | 10 |
|   |    | ii) The request/ Reply /Acknowledge- Replay protocol                                      |    |
| 4 | a. | Briefly discuss the design and implementation issues of DSM.                              | 10 |
|   | b. | Explain the various consistency models in DSM.  | 10 |

### PART - B

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|---|----|---|----|
| 5 | a. | Differentiate between Global Averaging Distributed Algorithm and Localized Averaging Distributed Algorithm. | 10 |
|   | b. | Explain in detail the probe - based distributed algorithm for deadlock detection.                           | 10 |
| 6 | a. | Briefly discuss the various desirable features of a good global scheduling algorithm.                       | 10 |
|   | b. | Explain the issues of designing load balancing algorithms.  | 10 |
| 7 | a. | Discuss the various advantages of process migration.  | 10 |
|   | b. | Explain the various issues in designing a Threads package.  | 10 |
| 8 | a. | Explain the desirable features of a good distributed file system.   | 10 |
|   | b. | Discuss the file-accessing models with suitable example.  | 10 |

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