Reg.No. \_\_\_\_\_\_\_\_\_\_\_\_



**End Semester Examination – Nov/Dec – 2017**

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| **Code :** | **17CS3005** | **Duration :** | **3hrs** |
| **Sub. Name :** | **ADVANCED OPERATING SYSTEMS** | **Max. marks :** | **100** |

**ANSWER ALL QUESTIONS (5 x 20 = 100 Marks)**

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| **Q. No.** | **Sub Div.** | **Questions** | **Course**  **Outcome** | **Marks** |
| 1. | a. | Identify the issues in Distributed Operating Systems. | CO1 | 10 |
| b. | Demonstrate the working principle of Lamport's Logical clock and justify how it aids to solve the issue of global clock absence. | CO1 | 10 |
| (OR) | | | | |
| 2 | a. | Elucidate on the measures used to evaluate the performance of mutual exclusion algorithms. | CO2 | 10 |
|  | b. | Demonstrate the working principle of Ho-Ramamoorthy deadlock detection algorithm. | CO2 | 10 |
|  |  |  |  |  |
| 3. |  | Give a solution for the following synchronization problems using semaphores.   1. Producer – Consumer problem. 2. Readers – Writers problem. | CO3 | 20 |
|  |  |  | CO3 | 10 |
| (OR) | | | | |
| 4. |  | What are the components of Load distribution algorithms? Explain the working principle of sender-initiated load distribution algorithm. | CO3 | 20 |
|  |  |  |  |  |
| 5. |  | How checkpoints facilitate in error recovery? Exemplify how error recovery is handled in concurrent systems. | CO4 | 20 |
| (OR) | | | | |
| 6. | a. | Classify the different type of failures. | CO4 | 10 |
|  | b. | Demonstrate the functioning of Backward Error Recovery approach. | CO4 | 10 |
|  |  |  |  |  |
| 7. |  | Explicate the operation of Non Blocking Commit protocol to handle single-site and multiple-site failures. | CO6 | 20 |
| (OR) | | | | |
| 8. | a. | Discuss the various methods to interconnect of networks in a multiprocessor system. | CO5 | 10 |
|  | b. | How is multiprocessor operating system structured? What are the design issues in multiprocessor operating system? | CO5 | 10 |
|  | |  |  |
|  | | **Compulsory:** |  |
| 9. |  | Write notes on   1. 2-phase locking, 2. 2-phase locking in DDBS 3. non two phase locking algorithm | CO6 | 20 |

ALL THE BEST