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

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**End Semester Examination – Nov/Dec – 2018**

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| **Code :** | **17CA2008** | **Duration :** | **3hrs** |
| **Sub. Name :** | **OPERATING SYSTEM CONCEPTS** | **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. | Differentiate between symmetric and asymmetric multiprocessing. | CO1 | 5 |
| b. | List the services provided by an operating system, and explain how each creates convenience for users. | CO1 | 15 |
| (OR) | | | | |
| 2. | a. | Elaborate the types of system calls. | CO1 | 15 |
| b. | Compare kernel and user mode of operation. | CO1 | 5 |
|  |  |  |  |  |
| 3. | a. | Discuss components of process and various states of a process with the help of a diagram. | CO2 | 10 |
| b. | Describe the types of scheduling. | CO2 | 10 |
| (OR) | | | | |
| 4. | a. | Explain the operations on processes | CO2 | 10 |
| b. | State the role of the init process on UNIX and Linux systems in regard to process termination. | CO2 | 10 |
|  |  |  |  |  |
| 5. | a. | Suppose that the following processes arrive for execution at the times and each process will run for the amount of time listed   |  |  |  | | --- | --- | --- | | Process | Arrival Time | Burst Time | | P1 | 0 | 7 | | P2 | 1 | 3 | | P3 | 2 | 8 | | P3 | 3 | 4 |   Draw a Gantt chart and compute waiting time for these processes with the Shortest Job First scheduling algorithm. | CO2 | 10 |
| b. | Explain round robin scheduling algorithm with suitable example | CO2 | 10 |
| (OR) | | | | |
| 6. | a. | Illustrate deadlock with example. | CO5 | 5 |
| b. | Discuss deadlock avoidance with example. | CO5 | 15 |
|  |  |  |  |  |
| 7. | a. | Explain in detail about the structure of the page table. | CO4 | 10 |
| b. | Explain contiguous memory allocation. | CO3 | 10 |
| (OR) | | | | |
| 8 | a. | Describe first in first out and optimal place replacement algorithm. | CO3 | 10 |
| b. | Elaborate demand paging. | CO3 | 10 |
|  | |  |  |  |
|  | | **Compulsory**: |  |  |
| 9. |  | Discuss various disk scheduling algorithms with examples. | CO4 | 20 |