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

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

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| **Code :** | **16CA2008** | **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. |  | What is a system call? Elaborate about the types of system calls. | CO1 | 20 |
| (OR) | | | | |
| 2. | a. | Elaborate about operating system structure. | CO1 | 15 |
| b. | Compare symmetric and asymmetric multiprocessing. Write the advantages and disadvantage of using multiprocessor system. | CO1 | 5 |
|  |  |  |  |  |
| 3. | a. | Explain about process scheduling. | CO2 | 10 |
| b. | Explain the fundamental models of interprocess communication. | CO2 | 10 |
| (OR) | | | | |
| 4. | a. | Explain about the operations on processes. | CO2 | 10 |
| b. | Explain the states of a process and process control block with neat diagram. | CO2 | 10 |
|  |  |  |  |  |
| 5. | a. | Find the average waiting time and average turnaround time using shortest job first scheduling algorithm as shown below:   |  |  | | --- | --- | | Process | Burst Time | | P1 | 10 | | P2 | 6 | | P3 | 12 | | P3 | 15 | | CO2 | 10 |
| b. | Explain round robin scheduling algorithm with suitable example. | CO2 | 10 |
| (OR) | | | | |
| 6. | a. | Distinguish between preemptive and non preemptive scheduling. | CO2 | 5 |
| b. | Discuss about deadlock avoidance with example. | CO3 | 15 |
|  |  |  |  |  |
| 7. | a. | Explain in detail about the structure of the page table. | CO2 | 10 |
| b. | Explain about contiguous memory allocation. | CO2 | 10 |
| (OR) | | | | |
| 8. | a. | What is the need for virtual memory? | CO3 | 5 |
| b. | Explain how virtual memory can be implemented in detail with a block diagram. | CO3 | 15 |
|  | |  |  |  |
|  | | **Compulsory**: |  |  |
| 9. |  | Discuss about various disk scheduling algorithms with examples. | CO2 | 20 |