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



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

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| **Code :** | **14CS3080** | **Duration :** | **3hrs** |
| **Sub. Name :** | **EMBEDDED LINUX** | **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. | Find the Turnaround Time and Weighed Turnaround Time and their Average Value for the following process using Round Robin (RR) Preemptive Scheduling.   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | Process | P1 | P2 | P3 | P4 | P5 | | Arrival time | 0 | 3 | 5 | 7 | 13 | | Service time | 3 | 3 | 2 | 5 | 3 | | CO1 | 15 |
| b. | Explain the scheduling algorithm which meets the deadline. | CO1 | 5 |
| (OR) | | | | |
| 2. | a. | Find the Turnaround Time and Weighed Turnaround Time and their average value for the following process using First come first served (FCFS) Non Preemptive Scheduling.   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | Process | P1 | P2 | P3 | P4 | P5 | | Arrival time | 0 | 1 | 3 | 6 | 11 | | Service time | 3 | 2 | 5 | 3 | 3 | | CO1 | 12 |
| b. | In some situations, a change in the state of one process may cause a change in the state of another process. Describe all the process states and state transitions. | CO1 | 8 |
|  |  |  |  |  |
| 3. | a. | How are the files stored in a single rooted and hierarchical system format in Linux  RTOS? | CO1 | 15 |
|  | b. | Explain the Significance of Linux Commands. | CO1 | 5 |
| (OR) | | | | |
| 4. | a. | Write short notes on the following functions in RTOS.  i. Logging in   ii. Kernel  iii. Linux architecture. | CO2 | 15 |
|  | b. | Differentiate OS and RTOS. | CO2 | 5 |
|  |  |  |  |  |
| 5. | a. | Describe how the various kernel subsystems are started and narrate how Linux gives control to the user space. | CO2 | 14 |
|  | b. | Write a brief outline of distributions of Linux mentioning its specifications and standards. | CO2 | 6 |
| (OR) | | | | |
| 6. |  | What exactly is the job of MTD? When and how do you include flash devices under an MTD subsystem and also state the file systems on an MTD device? | CO2 | 20 |
|  |  |  |  |  |
| 7. |  | Explain the Serial Driver which is tightly coupled with the TTY Subsystem. | CO3 | 20 |
| (OR) | | | | |
| 8. | a. | Predict the methods used for handling the Interrupt Management in Embedded Linux? | CO3 | 13 |
|  | b. | Explain the Timer, UART and its commands which is used for the Board Supporting Package in Linux. | CO3 | 7 |
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|  | | **Compulsory:** |  |  |
| 9. | a. | Discuss a generic application porting roadmap from an RTOS to embedded Linux. | CO3 | 14 |
|  | b. | Discuss various pthreads operations. | CO3 | 6 |

ALL THE BEST