

Code No: **R42049**

R10

Set No. 1

IV B.Tech II Semester Supplementary Examinations, April/May - 2017

REAL TIME OPERATING SYSTEMS

**(Electronics & Communication Engineering, Electronics & Instrumentation Engineering
and Electronics & Computer Engineering)**

Time: 3 hours**Max. Marks: 75**

Answer any FIVE Questions

All Questions carry equal marks

1. a) Explain about the interrupt routine rules used in RTOS environment. [8]
b) What is meant by a pipe? How does a pipe differ from a queue? [7]
2. a) Explain the system level functions of RTOS μ -COS-II. [8]
b) Describe semaphore functions for inter task communication. [7]
3. a) Explain the inheritance protocol implementation in RT Linux. [8]
b) Bring out the difference in OSEK, RTOS Linux [7]
4. a) With a neat state diagram explain how ACVM functions? [8]
b) Why do we need multiple single purpose processors along with a microcontroller in a digital camera? Explain it in detail. [7]
5. a) Explain synchronization model for SMS create and application tasks. [8]
b) Tabulate the features needed in the OS for a smart card. [7]
6. a) Discuss the working of Off-The-Shelf Operating System Software. [8]
b) Explain the process of creating target image for Windows XP Embedded platform. [7]
7. a) Write about the programming concepts in Linux. [8]
b) Explain the tolls used in system programming. [7]
8. a) Explain the function of the following registers and their offset address of Ethernet controller used in Embedded Linux : [8]
(i) Hardware Address Registers (ii) Transmit states of Descriptors
(iii) Transmit start address of Description (iv) Command Register.
b) Write about the Mutex management in RT Linux done with an example. [7]