Code: EC7T4A

IV B.Tech - I Semester – Regular / Supplementary Examinations – November 2016

EMBEDDED & REAL TIME SYSTEMS
(ELECTRONICS & COMMUNICATION ENGINEERING)

Duration: 3 hours   Max. Marks: 70

Answer any FIVE questions.   All questions carry equal marks

1. a) Characterize Embedded systems using any typical example embedded system.   7 M

   b) Summarize available Processor technologies valid in Embedded domain.   7 M

2. a) Identify general purpose processor architecture constituents for an embedded system.   7 M

   b) Contrast General purpose processors to ASIPs with suitable examples.   7 M

3. a) Identify the role of language in Embedded System Design? Discuss at least two languages with their features.   7 M

   b) What is Inter Process Communication? List various IPC mechanisms supported.   7 M

4. a) Discuss USB standard. 7 M

b) Write short notes on UART communication interfaces. 7M

5. a) Contrast Real Time Operating Systems to Desktop Operating Systems with example for each category. 7 M

b) Point out the function of scheduler in kernel. List various scheduling strategies available. 7 M

6. a) Paraphrase how Mailboxes establish Inter task communication in a typical RTOS? 7 M

b) What is an Event register? Explain the scenario of its usage with an example. 7 M

7. a) Compare Mutex to Semaphore. Explain the solution for priority inversion using Mutex. 7 M

b) List out the features of RTLINUX making it suitable for usage in RT systems when compared to UNIX. 7 M

8. a) Explain the role of compilation / synthesis in Embedded System Implementation. 7 M

b) What is an Intellectual Property Code? Explain its usage in embedded system designs. 7 M