

Code No: C7809**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD****M.Tech I Semester Examinations March/April-2011****EMBEDDED SYSTEMS****(COMPUTER NETWORKS & INFORMATION SECURITY)****Time: 3hours****Max.Marks:60**

Answer any five questions
All questions carry equal marks

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1. a. What are the essential structural units in the following? List each of these.
 - i. Microprocessor
 - ii. Embedded processor
 - iii. Microcontroller
 - iv. DSP
 - v. ASIP
- b. With a neat block, describe the process of converting an assembly language program into the machine codes and finally obtaining the ROM image. [12]
2. a. List out the activities for software-design cycle during an embedded software-development process.
- b. Explain the classification of embedded systems. [12]
3. Explain 8051 architectural features. What are the devices internally present in the classic 8051. How do you interface a programmable peripheral interface in 8051? [12]
4. a. Explain how the parallel ports of the device are interfaced with LCD controller?
- b. Explain how communication takes place between handheld devices using IrDA standard. [12]
5. What are the advantages and disadvantages of C++? Explain the optimization of codes in embedded c++ programs to eliminate the disadvantages in c++. [12]
6. a. List out the kernel services in an operating system (OS).
- b. Explain the round robin time slicing scheduling model used by scheduler in RTOS. [12]
7. a. Explain the basic features of VxWorks.
- b. Explain the VxWorks system functions and system tasks. [12]
8. a. What are the software tools in software and hardware implementation for embedded system?
- b. Explain about In-circuit emulator (ICE). [12]
