



Reg. No. : .....

Name : .....

**Sixth Semester B.Tech. Degree Examination, May 2011**  
**(2008 Scheme)**  
**Branch : Information Technology**  
**08.606 : EMBEDDED SYSTEMS (F)**

Time : 3 Hours

Max. Marks : 100

**PART – A**

1. Why are device drivers important routines in a system ?
2. What is a cross assembler ?
3. What are the challenges that arise during the design process of an embedded system ?
4. What is software timer ?
5. How is an interrupt service routine chosen for execution ?
6. Explain how to eliminate bugs in the program caused by shared data problem.
7. When is RTOS necessary in embedded systems ?
8. Explain interrupt service thread.
9. Explain message queue.
10. How are process control blocks organized ?



**(10×4=40 Marks)**

**P.T.O.**



## PART – B

**Module – I**

11. Explain in detail various serial buses which are used for interconnecting distributed devices. 20

OR

12. a) Explain in detail the steps involved in writing a device driver. 10  
b) What do you mean by system-on-chip ? Explain with an example. 10

**Module – II**

13. a) What are the various criteria by which an appropriate programming language is chosen for embedded software of a given system ? 10  
b) Explain how queues are used for flow control on network. 10

OR

14. a) Explain in detail use of pointers and function calls in embedded system software. 10  
b) Explain with a diagram how a list of tasks in a ready list are managed. 10

**Module – III**

15. a) Explain in detail use of semaphore for a task. What is priority inversion ? 12  
b) How is a mailbox created and used in IPC ? 8

OR

16. a) Explain the following :  
i) Cyclic cooperative scheduling  
ii) Preemptive scheduling. 13  
b) What are the criteria used for comparing real time scheduling algorithms ? 7
-