NR

Code No: B0604

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
M.Tech II Semester Examinations, October/November 2011
EMBEDDED AND REAL TIME SYSTEMS
(DIGITAL SYSTEMS AND COMPUTER ELECTRONICS)

Time: 3hours **Max. Marks: 60**

Answer any five questions
All questions carry equal marks

\- - -

1.a)	What is an embedded computing system? Explain its characteristics.	
b)	Define microcontrollers, microprocessors and single purpose processors.	(6+6)
2.a)	Explain the architecture of general purpose processors and its components.	
b)	Explain the pipelining concept with examples.	(6+6)
3.a)	Illustrate the concurrent process model with example.	
b)	Briefly describe the FSMD model.	(6+6)
4.a)	Define the following with examples. Communication channel, Bandwidth and Diameter, Interconnection network.	
b)	Write the differences between synchronous and asynchronous data transfer.	(6+6)
5.a)	Write a procedure to schedule the interrupts in embedded computing systems.	
b)	Write the issues and challenges to design automatic chocolate vending machine.	(6+6)
6.a)	Describe the functions of semaphores to handle IPC problem.	
b)	Differentiate between tasks and task scheduler.	(6+6)
7.a)	Discuss the timer functions in RTOS.	
b)	Write the features of RT Linux its uses.	(6+6)
8.	Write short notes on a) Logic Synthesis b) Reuse of Intellectual property	(6+6)

****