R09

Code No: C3806, C0604, C7006, C5501, C7701, C6801, C5701

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

M.Tech I - Semester Examinations, March/April-2011

MICROCONTROLLERS FOR EMBEDDED SYSTEM DESIGN

(COMMON TO DIGITAL ELECTRONICS & COMMUNICATION SYSTEMS, DIGITAL SYSTEMS & COMPUTER ELECTRONICS, ELECTRONICS & COMMUNICATION ENGINEERING, EMBEDDED SYSTEMS, EMBEDDED SYSTEMS & VLSI DESIGN, VLSI & EMBEDDED SYSTEMS, VLSI SYSTEM DESIGN)

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

Answer any five questions

All questions carry equal marks

- - -

1.a) What are the issues in designing embedded system?
b) Why does a processor system always need an interrupt handle? [6+6]

2.a) Explain the need of a watchdog times and reset after the watched time.
b) What are the advantages of an ASIP for design of an embedded system? [6+6]

3. Explain the serial communications control operation in 8051 in different modes of operation. [12]

4.a) Draw a neat program model of ARM and explain its different modes of usage.
b) Explain the multiple register transfer instruction set of ARM processor. [6+6]

5.a) Explain events management? How are inter-task communication objects used for communication and synchronization?
b) How do we choose scheduling strategy for the periodic, a periodic and sporadic tasks? [6+6]

6.a) How do you create a counsiling semaphore?
b) How do we initiate round robin time series scheduling?
c) How do you let a lower priority task executes in a preemptive scheduler? [6+6]

7.a) Discuss about I2C bus communication with its devices.
b) How does CAN differ from I2C? [6+6]

8. Write brief note on:
a) SDMA
b) Continuous timer blocks in PSOC. [12]

--ooOoo--