R09

Code No: C8402

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
M.Tech I - Semester Examinations, March/April 2011
ADVANCED MICRO CONTROLLERS
(REAL TIME SYSTEMS)

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

Answer any five questions
All questions carry equal marks
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1. a) Explain the complete ARM register set in different modes of ARM processor. [6M]
   b) Explain how a constant is loaded into a general purpose register of ARM processor. [6M]

2. a) Distinguish the features of RS 232, RS 422, RS 485 serial communication protocols. [6M]
   b) Draw the block diagram of CPM. Explain the data path and registers of SDMA channels. [6M]

3. a) Give the hardware configuration of program and data memory interfaced to 8051. [6M]
   b) Explain the format of IP and IE register of 8051. [6M]

4. What is the purpose of External Bus Interface? Give its signal descriptions and limitations. [12M]

5. a) Write a program to create a square wave with a 20ms period and 50% duty cycle using PIC16C6X. [6M]
   b) Write a program to transmit a string “Embedded Systems” serially at 9600 baud rate using 8051. [6M]

6. Discuss the hardware and software attributes of vectored interrupts. [12M]

7. a) Write a program to get data from the SFRs of Port B and send it to the SFRs of Port C continuously in PIC 16C6X. [6M]
   b) Describe various operating modes of timers/counters and associated registers of PIC 16C6X. [6M]

8. Write short notes on:
   a) Interrupt Latency
   b) Thumb State of ARM7TDMI
   c) Addressing modes of 68HC11. [12M]

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