JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
IV.B.TECH - I SEMESTER REGULAR EXAMINATIONS NOV/DEC, 2009
EMBEDDED SYSTEMS
(Common to CSE, IT, E.CON.E, CSS)

Time: 3hours　　　　　　　　　　　　　　　　　　　Max.Marks:80

Answer any FIVE questions
All questions carry equal marks
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1. a) What are the basic functional circuit chips in an embedded system? Explain them in brief.　　　　　　　　　　　　　　　　　　　　　[8+8]
    b) What are the techniques of energy and power management in an embedded system?

2. Explain different modes of serial communication interface in 8051, explain each of the modes with an example each.　　　　　　　　　　　　　　[16]

3. a) Explain different addressing modes of 8051 microcontroller with an example.

    b) Explain data transfer instructions of 8051.　　　　　　　　　[8+8]

4. a) Write a brief note in SJMP, LJMP and AJMP instructions in 8051.Give an example for each instruction use.
    b) How is DPTR register used is 8051? Explain
    c) Briefly explain the post 3 functions in 8051.　　　　　　　　　[16]

5. Design an interface to 8051 to display the alphanumeric characters on alphanumeric display unit by giving inputs through a Keyboard.　　　　　[16]

6. Compare semaphores, events and queues for implanting inter task communication with an example　　　　　　　　　　　　　　　　　　　　[16]

7. What is the need to encapsulate the massage queue, explain with an example on flash memory read & write operation.　　　　　　　　　　　　　[16]

8. Write a brief note on　　　　　　　　　　　　　　　　　　　[16]
    a. Distributed embedded architecture
    b. IP packet structure.

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