Code.No: 37328 | R05 | SET-4

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) Classify embedded systems. [8+8]
   b) What are the advantages and disadvantages in having fixed point arithmetic unit and additional floating point arithmetic processing unit.

2. With the help of a neat block diagram explain the architecture of 8051. [16]

3. a) Explain different ALU instructions in 8051 with an example. [8+8]
   b) Write a brief note on addressing modes of 8051.

4. a) Write an assembly language program to 8051 to generate an interrupt after a time delay of 4ms the crystal frequency is 12MHZ. [8+8]

   b) Explain how signed arithmetic's is carried out in 8051.

5. Interface an 8 bit DAC to 8051 and generate a triangular wave form with amplitude of +6v and frequency of 1KHz [16]

6. a) Explain different kernel objects in an RTOS. [8+8]

   b) Explain the inter task communicators through message queues, pipes, mailboxes

7. Explain in detail the basic functions in developing a RTOS. Explain for one RTOS used in embedded system design. [16]

8. Write a brief note on [8+8]
   a) Memory organization of ARM processor
   b) Fixed point ALU in SHARC

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