**Code No: B0509, B5802** **NR**

**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD**
**M.Tech II Semester Examinations, October/November 2011**
**EMBEDDED SYSTEMS**
**(COMMON TO COMPUTER SCIENCE, COMPUTER SCIENCE & ENGINEERING)**

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

**Answer any five questions**
**All questions carry equal marks**

1.a) Write the characteristics of Embedded computing Algorithms?
b) Explain Requirement step in design process of Embedded System? [6+6]

2.a) Explain I/O port pins and their functions
b) Explain TMOD register. [8+4]

3.a) Assume that 5 BCD data items are stored in RAM locations starting at 40H, as shown below. Write a program to find the sum of all the numbers. The result must be in BCD.

40= (71)
41= (11)
42=(65)
43= (59)
44= (37)

b) Write a program that finds the number of 1s in a given byte? [6+6]

4.a) Write a program to get hex data in the range of 00H-FFH from port1 and convert it to decimal. Save the digits in R7, R6 and R5, where the least significant digit is in R7?
b) Analyze the program, assuming that P1 has a value of FDH for data? [8+4]

5. Describe the operation modes of LCDS and also describe how to program and interface an LCD to an 8051? [12]

6. Explain Message Queues? [12]

7.a) Explain programming Model of ARM processor?
b) Explain Task states? [8+4]

8. Explain Instruction sets of ARM and SHARC PROCESSORS? [12]

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