Printed Pages–2

(Following Paper ID and Roll No. to be filled in your Answer Book)

PAPER ID : 0387 Roll No. | | | | | | | | | |

B.Tech.

(SEM VIII) EVEN SEMESTER THEORY EXAMINATION, 2009-2010

EMBEDDED SYSTEMS

Time : 3 Hours *Total Marks : 100*

Note : *(i) Attempt **ALL** questions.*

*(ii) All questions carry **equal** marks.*

1. Attempt *any two* parts of the following : (2x10=20)
   (a) What is embedded operating system? Also describe the design parameters of an embedded system and its significance.
   (b) Explain the following :
      (i) Tristate output
      (ii) PLD
      (iii) FSMD
   (c) Describe the operation of general purpose processor. Also describe the DSP chips.

2. Attempt *any two* parts of the following : (2x10=20)
   (a) Explain the working of CISC and RISC processor. Also describe the Harvard and Von Neumann Architecture.
   (b) Draw the 8051 microcontroller architecture and also explain the working of each block.
   (c) What is addressing mode in microcontroller? Also write the all addressing modes with suitable example of instructions.

3. Attempt *any two* parts of the following : (2x10=2

(a) Classify the instruction set of 8051 microcontroller. Also write a program to add ten numbers from some specified location.

(b) Explain the following :

(i) Memory organisation.

(ii) Serial communication

(c) (i) What are different types of interrupt in 8051 microcontroller?

(ii) What is watchdog Timer?

4. Attempt *any two* of the following : (2x10=2

(a) What are the tasks of RTOS? Also explain the semaphores and shared data.

(b) Explain the working of message queues and mail boxes.

(c) Describe the generation and advancement of processors. Also describe the main architectural features of 80386.

5. Attempt *any two* parts of the following : (2x10=

(a) Write the short notes on following :

(i) I/O addressing

(ii) Direct memory Access

(iii) Wireless protocols

(b) Explain the interfacing of stepper motor with 8051 microcontroller.

(c) Briefly explain the interfacing of the following:

(i) DAC

(ii) Keyboard

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