Printed Pages: 3 | 485 | EEC-047

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

Paper ID : 131756 Roll No. | | | | | | | | | | |

B.Tech.

(SEM. VII) THEORY EXAMINATION, 2015-16

EMBEDDED SYSTEM

[Time:3 hours] **[MaximumMarks:100]**

Section-A

1. Attempt **all** parts. All parts carry equal marks. Write answer of each part in short. (2x10=20)

   (a) What are the characteristics of embedded system?

   (b) Name some DSP used in embedded systems?

   (c) In what ways CISC and RISC processors differ?

   (d) List the important considerations when selecting a processor.

   (e) What is watch dog timer?

   (f) What is I2C?

   (g) Define Semaphore.

   (h) List the functions of a kernel.

(i) What is the need for LCD and LED displays?

(j) What are the two characteristics of synchronous communication?

Section-B

Attempt **any five** questions from this section. (10×5=50)

2. Explain the hardware units that must be present in the embedded systems.

3. Explain the serial communication using I2C, CAN, USB in detail.

4. Explain the Addressing modes of 8051 Microcontrollers.

5. Explain state transition diagram RTOS.

6. What are the Challenges in Embedded systems?

7. Write short note on :

   i) Analog to digital converter

   ii) UART

8. What do you meant by bus arbitration? Give the steps for accomplishing input output data transfer.

9. What is the difference between general purpose processors and ASIP's?

Section-C

Attempt **any two** questions from this section. (15x2=30)

10. i) Explain the goals of operating system services.

    ii) Explain the three alternative systems in three RTOS for responding a hardware source call with the diagram.

11. Write short note on any of the three :

    i) Von Neumann Architecture.

    ii) ASIP's

    iii) 80386 Architecture

    iv) Latch Interconnection.

12. Explain the software tools in designing of an embedded system. Explain the sophisticated interfacing features in device ports.

—×—