Total No. of Questions : 10] [Total No. of Printed Pages : 2

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IT - 720

B.E. VII Semester

Examination, December 2014

Embedded System

Time : Three Hours *Maximum Marks : 70*

Note: Attempt all questions. Each question carry equal marks.

Unit - I

1. a) Explain the various form of memories present in a system. 7

   b) Explain the software tools in designing of an embedded system. 7

OR

2. a) State any four features and applications of Embedded system. 7

   b) List the hardware units that must be present in the embedded systems. 7

Unit - II

3. a) Explain the fundamental issues of hardware software co-design. 7

   b) Describe the computational models in embedded design. 7

OR

4. Explain the following: 14

   i) Data flow graph

   ii) Control flow graph

   iii) Sequential programmed model

   iv) State Machine Model.

Unit - III

5. a) Describe Serial modes of 8051. 7

   b) Draw the labelled diagram of interfacing of DAC with 8051 and write a program in assembly language to generate a triangular wave. 7

OR

6. State two external hardware interrupts in 8051 microcontroller. At what port pins are they located? State the role the two bits TCON.0 TCON.2 Play in execution of the external interrupts. 14

Unit - IV

7. a) Explain the 'C' program compiler and cross compiler. 7

   b) Explain the use of pointers, NULL pointers. 7

OR

8. a) State the functions of: 7

   i) Compiler ii) Debugger

   iii) Simulator iv) Emulator

   b) Write an assembly language program to generate a 4 step sequence for a 4 phase stepper motor. 7

Unit - V

9. a) Explain the goals of operating system services. 7

   b) Discuss with the diagram task synchronization model for a specific application 7

OR

10. a) Explain the scheduler in which RTOS insert into the list and ready task for sequential execution in a co-operative round robin model. 7

    b) Explain the critical section service by a preemptive scheduler. 7

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