CS (1)

C 47639

Name.....

Reg. No.....

SIXTH SEMESTER B.TECH. (ENGINEERING) DEGREE EXAMINATION, JUNE 2008

CS/IT 04 601 – EMBEDDED SYSTEMS

(2004 admissions)

Time : Three Hours

Maximum : 100 Marks

Answer **all** *questions.*

I. (a) List the names of models that are employed during the design process of the embedded software and its RTOS for complex and multiprocessor systems.

(b) What are the special features of embedded processors?

(c) What is a queue? List its features.

(d) Name the advanced bus standard protocols.

(e) Why does program complexity increase with a reduced number of DFGs and increasing decision nodes?

(f) List the issues in analysis of requirements and specifications of real time programming.

(g) Why it is necessary to estimate worst-case latency?

(h) What should be the OS security policy?

(8 × 5 = 40 marks)

II. (a) (i) Name the *three* different classification of embedded systems and explain about each one.

(ii) How power saving during execution can be achieved in an embedded system.

(9 + 6 = 15 marks)

Or

(b) List and explain the software modules and tools used in the design of embedded system.

III. (a) Discuss about memory blocks for elements of stack, array and queue.

Or

(b) With the help of diagram explain the data transfer between memory and peripheral devices using DMA controller.

IV. (a) Using suitable example, explain the use of Finite State Machine Model for software analysis of an embedded system.

Or

(b) Explain the shared data problem and its solutions.

V. (a) List and explain the services of Kernel.

Or

(b) Explain how the RTOS environment handle interrupt sources.

[4 × 15 = 60 marks]