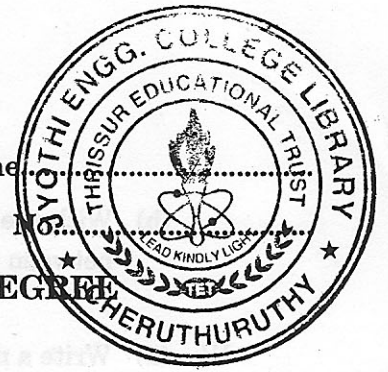


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(Pages 2)

Name

Reg. No.



**SIXTH SEMESTER B.TECH. (ENGINEERING) DEGREE
EXAMINATION, JUNE 2010**

CS/IT 04 601—EMBEDDED SYSTEM

(2004 Admissions)

Time : Three Hours

Maximum : 100 Marks

Answer all questions.

- I. (a) List the features of medium scale embedded system.
(b) What are embedded processors ? List their capabilities.
(c) Name the ten different forms of a Timer.
(d) Name and explain the different fields of data frame used in the I²C bus.
(e) Explain the use of Mutex as resource key for locking and unlocking to a process.
(f) List and explain briefly about the five classifications of interrupts.
(g) Name and briefly explain about the three different methods used by an RTOs to respond to a hardware source call.
(h) When do you use co-operative scheduling and when pre-emptive ?

(8 × 5 = 40 marks)

- II. (a) (i) What are application specific system processors (ASSPs) ? Name the applications where ASSP is necessary ?
(ii) Explain how the function of DAC can be simulated using PWM (Pulse Width Modulator) unit.

(6 marks)

(9 marks)

Or

- (b) What are physical and virtual devices ? Also discuss about device drivers and device management using operating system.

(15 marks)

- III. (a) Name and explain the use of different data structures used in embedded systems.

(15 marks)

Or

Turn over

- (b) With the help of block diagram explain how a DMA controller can be used to transfer data between memory and I/O devices.

(15 marks)

- IV. (a) Write a note on modeling of multiprocessor system.

Or

- (b) Discuss about the use of semaphores for a task.

- V. (a) Explain the schedule management for multiple tasks by an RTOS with the help of an example.

Or

- (b) Using an example explain how MUCOS RTOS can be used for software development of an embedded system.

[4 × 15 = 60 marks]