(CS 424 (E)/IT 424 (C))

IV/IV B.Tech. DEGREE EXAMINATION, APRIL 2005.

(Examination at the end of Fourth Year of 4 Year Course)

Second Semester

EMBEDDED SYSTEMS

Time : Three hours Maximum : 70 marks

All questions carry equal marks.

Answer Question No. 1 compulsorily. (1 × 14 = 14)

Answer ONE question from each Unit. (4 × 14 = 56)

1. (a) Mention various types of chip packages.

(b) What are the different power–saving modes of embedded system microprocessor?

(c) Define cross assembler.

(d) What are locators?

(e) Explain about RISC technology.

(f) Define emulator.

(g) What are hard and soft real–time systems?

(h) Define cross compiler.

(i) What is a non reentrant function?

(j) What is the function of a scheduler?

(k) List few processors used in embedded systems.

(l) Write truth table for a three–input AND gate.

(m) Discuss about an address space.

(n) Explain Bus handshaking.

UNIT I

2. (a) Explain about UART. (6)

(b) Explain the working of DMA. (8)

Or

(c) Explain in detail about Read–Only–Memory and ROM variants. (14)

UNIT II

3. (a) Explain Read–Time–Operating–System architecture. (6)

(b) Mention the characteristics of various software architectures. (8)

Or

(c) Explain the usage of semaphores to solve the shared–data problem. (14)

UNIT III

4. (a) Explain about interrupt routines in an RTOS environment. (8)

(b) Explain encapsulating queues with an example. (6)

Or

(c) Discuss the design principles of embedded systems. (14)

UNIT IV

5. (a) Explain different ways of getting embedded software into the target system. (8)

(b) Write short notes on monitors. (6)

Or

(c) Discuss the goals of the testing process. (8)

(d) Discuss about logic analyzers. (6)
