[07 – 4124]

IV/IV B.Tech. DEGREE EXAMINATION.

First Semester

Computer Science and Engineering

Elective III — EMBEDDED SYSTEMS

(Common with IT)

(w.e.f. the admitted batch of 2006–2007)

Time : Three hours   Maximum : 70 marks

First question is compulsory.

Answer any FOUR from the remaining questions.

All questions carry equal marks.

Answer all parts of any question at one place.

1.   (a) What does the timing diagram for a static RAM look like? Remember to include both a read cycle and a write cycle.

(b) Why is a FIFO useful for received bytes in a VART?

(c) Describe cross compilers.

(d) Explain the assert macro.

2. (a) Describe D Flip-Flops.

   (b) Explain multiply driven signals and signal loading.

3. Discuss direct memory access.

4. (a) Explain interrupt latency.

   (b) Discuss Real-time operating system architecture.

5. Discuss RTOS semaphores.

6. (a) Explain pipes and their functions.

   (b) Describe multitask systems.

7. (a) Explain the procedure to design embedded system software using an RTOS.

   (b) Describe tool chain for building embedded software.

8. (a) Explain the goals of the typical testing process on your Host machine.

   (b) Describe logic analyzers.

_____