

2002 SCHEME

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EE841

Eighth Semester B.E. Degree Examination, June-July 2009 Embedded Systems

Time: 3 hrs.

Max. Marks:100

Note: Answer any FIVE full questions.

- 1 a. What is an embedded system? Explain different types of embedded systems. (08 Marks)
b. With a neat block diagram explain the unique and specific features of microcontroller 8051 architecture. (12 Marks)
- 2 a. Explain queue and stack data structures with their application. (08 Marks)
b. Explain round robin and round robin with interrupts architectures. Also mention advantages and disadvantages of both architectures. (12 Marks)
- 3 a. What are the advantages of high level language coding? (06 Marks)
b. Explain different states of a task in RTOS. (06 Marks)
c. Give a comparison of three methods of protecting shared data. (08 Marks)
- 4 a. Explain briefly various issues for selecting a DAC. (10 Marks)
b. With a neat diagram and necessary waveforms explain 8-bit ramp ADC. (10 Marks)
- 5 a. Define i) Resolution ii) Reproducibility iii) Precision iv) Statistical control with respect to an instrument. (08 Marks)
b. With a neat block diagram explain general instrumentation / control system. (12 Marks)
- 6 a. With a neat block diagram explain half duplex and full duplex communication. (06 Marks)
b. With necessary waveforms and diagrams explain switch bouncing. Also explain how it can be removed using a capacitor. (10 Marks)
c. Define i) Baud rate ii) Band width for serial communication. (04 Marks)
- 7 a. Differentiate memory mapped I/O and isolated I/O computer architecture. (06 Marks)
b. Explain general approach to memory interfacing on a 6811 in expanded mode. (06 Marks)
c. Interface 32 K PROM to 6811 processor. (08 Marks)
- 8 a. List out the advantages of hardware implementation and software implementation of any subsystem. (08 Marks)
b. Write short notes on:
i) ROM variants.
ii) SoC for cell-phone. (12 Marks)
