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10EE665

Sixth Semester B.E. Degree Examination, June/July 2017
Embedded Systems

Time: 3 hrs.

Max. Marks:100

Note: Answer FIVE full questions, selecting at least TWO questions from each part.

PART – A

- 1 a. Define Embedded system. Explain the main components of embedded system. (07 Marks)
b. Explain the skill required for small scale, medium scale and sophisticated embedded system design. (08 Marks)
c. Compare the architecture of 6808 and 6811. (05 Marks)
- 2 a. Explain the applications of embedded systems. (10 Marks)
b. Draw the block diagram of Embedded systems SOC for cellless bar code scanner and explain it's features and benefits. (10 Marks)
- 3 a. Explain the interfacing of DAC to micro-processor system. (07 Marks)
b. Explain the following :
i) Basic Data Acquisition system (08 Marks)
ii) Signal Conditioning using DSP. (05 Marks)
- 4 a. Explain the issues observed in embedded system design. (10 Marks)
b. Briefly describe the top-down design process. (05 Marks)
c. Write a note on Thermal considerations. (05 Marks)

PART – B

- 5 a. With a neat diagram, explain the components of an operating system. (05 Marks)
b. Explain services provided by the Kernel. (10 Marks)
c. Mention the advantages of 'C' as a High level language. (05 Marks)
- 6 a. Briefly describe function queue scheduling architecture. Mention advantages and disadvantages of Round-Robin with Interrupt architecture. (10 Marks)
b. Explain the classification of Real-time operating system (RTOS) and describe its features. (10 Marks)
- 7 a. Define with respect to serial I/O.
i) Full duplex communication
ii) Half duplex communication
iii) Simplex communication
iv) Baud rate
v) Frame. (10 Marks)
b. Explain three basic approaches of interfacing multiple keys to a single 8-bit parallel port. (10 Marks)
- 8 a. Explain the software Debouncing. With a help of flowcharts and 'C' code. (10 Marks)
b. Explain architecture of a computer with memory mapped I/O and isolated I/O with aid of neat diagram. (10 Marks)

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2. Any revealing of identification, appear to evaluator and/or equations written eg. 42-8-20, will be treated as malpractice.