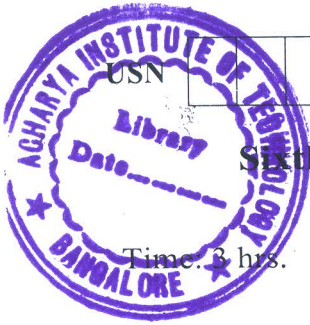


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10EE665



Sixth Semester B.E. Degree Examination, Dec.2019/Jan.2020
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 an embedded systems. Discuss the classification of embedded systems. (08 Marks)
- b. Explain the various registers of 6808 microcontroller and condition code register of 6811 microcontroller. (06 Marks)
- c. With the help of neat timing diagram, explain the sequence of events that occur when microprocessor reads from a ROM. (06 Marks)
- 2 a. Describe the architectural features of 6811 μ c with a suitable block diagram. (10 Marks)
- b. Compare the characteristics of different memories used in embedded systems. (05 Marks)
- c. Write short note on sample and hold circuit. (05 Marks)
- 3 a. With neat block diagram and necessary waveforms explain 8 bit Ramp ADC. (06 Marks)
- b. Explain the operation of a 3bit unsigned DAC R-2R ladder network, with neat circuit diagram. (06 Marks)
- c. With neat block diagram, explain data acquisition system for temperature measurement. (08 Marks)
- 4 a. What is market window? Explain its importance. (04 Marks)
- b. What is design metric? Explain any six design metric briefly. (08 Marks)
- c. List and define the three main IC technologies. What are the benefits of each? (08 Marks)

PART – B

- 5 a. Explain the following data structures used in C. (08 Marks)
i) Queue ii) Stack iii) Array iv) Tree.
- b. Explain round robin with interrupt architecture with the help of its pseudocode. Also discuss the worst case response time of this architecture. (08 Marks)
- c. Explain the difference between RTOS and desktop machine operating systems. (04 Marks)
- 6 a. What is task? Explain the states in which a task can exist. With neat diagram. (06 Marks)
- b. What are the different ways to protect shared data? Explain. (08 Marks)
- c. What is re-entrant function? List the rules to check if a function is re-entrant or not. (06 Marks)
- 7 a. Explain the three ways of interfacing multiple keys to an 8 bit parallel port. (08 Marks)
- b. With figures, explain : i) Half duplex ii) Full duplex serial communication. (04 Marks)
- c. With neat block diagram, explain the architecture of a computer with memory mapped I/O and isolated I/O. (08 Marks)
- 8 a. List the advantages of LCD over a LED. (04 Marks)
- b. With a neat block diagram, explain the interfacing of 8k RAM, with 6811 processor. (08 Marks)
- c. Explain with neat block diagram about interface of a PID velocity controller. (08 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.