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10EE665

Sixth Semester B.E. Degree Examination, Dec.2017/Jan.2018
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. What is an embedded system? Explain different types of embedded systems. (08 Marks)
b. Explain 6811 EVB system with block diagram. (12 Marks)
- 2 a. Explain with Figure working of RAM memory. (08 Marks)
b. Explain any Four examples of embedded systems. (12 Marks)
- 3 a. With Figure and waveforms, explain working of 16 bit dual slope ADC. (12 Marks)
b. Explain the data acquisition system of EKG. (08 Marks)
- 4 a. Discuss the various design challenges of embedded system. (12 Marks)
b. Explain the different issues in embedded design in brief. (08 Marks)

PART – B

- 5 a. Write the characteristics of the round – robin – with interrupts architecture. (12 Marks)
b. Give the comparison of characteristics of various software architectures. (08 Marks)
- 6 a. Explain in detail the use of semaphore as a signaling device. (12 Marks)
b. Write the different semaphore variants. (08 Marks)
- 7 a. Explain with Figures half duplex and full duplex communication. (08 Marks)
b. Explain how hardware debouncing is done using capacitor. Draw necessary waveforms. (12 Marks)
- 8 a. Interface 6811 microcontroller to 8k by 8 bit static RAM. Draw read and writes timing diagrams. (12 Marks)
b. With figure explain the case study of embedded velocity PID controller. (08 Marks)

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Important Note -1 On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.