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10MT64

**Sixth Semester B.E. Degree Examination, Aug./Sept. 2020**  
**Embedded Systems**

Max. Marks: 100

Time: 3 hrs.

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

**PART - A**

- 1 a. Explain the Embedded system life cycle with a neat flowchart. (10 Marks)  
b. What are major aspects in the development of embedded applications? Also explain important steps in developing an embedded system. (10 Marks)
- 2 a. Explain different addressing modes with example. (12 Marks)  
b. List and explain the different steps in instruction execution. (08 Marks)
- 3 a. With a neat sketch, explain the Read and Write operation of SRAM all. Also write timing diagram. (10 Marks)  
b. Explain the following terms:  
i) Swapping (10 Marks)  
ii) Overlays.
- 4 a. Explain different life cycle model involved in Embedded system design and development. (12 Marks)  
b. What is Cohesion? Explain any three kinds of cohesion. (08 Marks)

**PART - B**

- 5 a. Give Comparison between :  
i) Hard and soft Real time systems (08 Marks)  
ii) Foreground and back ground systems. (06 Marks)  
b. Explain different functions of operating system. (06 Marks)  
c. With neat diagram, explain task transition diagram. (08 Marks)
- 6 a. Explain Task control Block in detail. (12 Marks)  
b. Explain three saving mechanism used during the context switching.
- 7 a. Explain Andahl's law. Consider a system with following characteristics. The task to be analyzed and improved currently executes in 100 times units, and the goal is to reduce execution time to 50 time units. The algorithm to be improved uses 40 times units. Find the amount of improvement and also comment on the result. (08 Marks)  
b. Explain different flow of control in programs. (08 Marks)  
c. Write a short note on co - routine. (04 Marks)
- 8 a. List out the common mistake done during the performance optimization. (10 Marks)  
b. Explain Time loading concept in detail. (10 Marks)

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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.