**Reg. No. :** | | | | | | | | | | |

## Question Paper Code: 36503

B.E. / B.Tech. DEGREE EXAMINATION, MAY 2018

Sixth Semester

Electronics and Instrumentation Engineering

01UEI603 - REAL TIME EMBEDDED SYSTEMS ARCHITECTURE

(Regulation 2013)

Duration: Three hours Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 2 = 20 Marks)

1. List the features of 8051.
2. List the features of 8051.
3. How the speed of stepper motor can be controlled?
4. Define debugging.
5. What are the complicating factors in embedded system design?
6. Define DMA.
7. Define Bus.
8. Define CAN bus.
9. What is meant by context switch?
10. Define task scheduling.

PART - B (5 x 16 = 80 Marks)

11. (a) Explain I/O ports in 8051 with neat diagrams. (16)

Or

(b) Explain I/O ports in 8051 with neat diagrams. (16)

12. (a) Describe in detail about

(i) Data transfer instruction (8)

(ii) Arithmetic instruction (8)

Or

(b) Illustrate the interfacing of stepper motor control with 8051 and explain in detail. (16)

13. (a) Discuss the methods in memory management. (16)

Or

(b) Discuss in detail about the structural units at a processor in the embedded system with block diagram. (16)

14. (a) Explain memory and IO devices interfacing (Memory Mapped I/O). (16)

Or

(b) Explain in detail about the serial communication using the $I^2C$ Bus. (16)

15. (a) Explain how thread and process are used in embedded system . (16)

Or

(b) Explain the method of static real time scheduling of tasks. (16)

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