Reg. No. :

Question Paper Code: 36503

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2019

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. Show the PSW format of 8051.

2. List the types of addressing modes present in 8051.

3. Write any 4 single bit instructions in 8051.

4. Compare the operation of SWAP and XCH instruction.

5. What is embedded system?

6. Mention the classification of embedded system.

7. Define watchdog timer.

8. Define CAN bus.

9. What is meant by context switch?

10. Define task scheduling.

PART - B (5 x 16 = 80 Marks)

11. (a) Draw the functional block diagram of 8051 and explain each block. (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) Explain about the intelligent LCD display interface to the 8051 with neat sketch. (16)

13. (a) Describe in detail about:

(i) Memory management system (8)

(ii) Classification of memory (8)

Or

(b) (i) Explain in details about the build process of an embedded system. (8)

(ii) Discuss in details about the memory management methods of an embedded system. (8)

14. (a) List the serial communication bus and explain I^2C bus and CAN bus. (16)

Or

(b) List the parallel communication bus and explain PCI / PCI/X bus and ISA bus. (16)

15. (a) Describe about the fifteen-point strategy for synchronization is suggested for real time programming for an embedded system. (16)

Or

(b) Summarize the any two concept of semaphore. (16)

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