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

Question Paper Code: 31563

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2016

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. Write the features of device driver.
9. What is interrupt flag?
10. What is meant by thread?

PART - B (5 x 16 = 80 Marks)

11. (a) Draw the functional block diagram of 8051 and explain each block. (16)

Or

(b) (i) Explain in detail about interrupt structure with their function register. (8)

(ii) What is SCON and PCON function register and explain in detail. (8)

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) Describe in detail about:

(i) Memory management system (8)

(ii) Classification of memory (8)

Or

(b) Illustrate design process in embedded system. (16)

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 in detail about:

(i) Interrupt latency (8)

(ii) Interrupt service deadline (8)

Or

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