

Reg. No. :

| | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|
| | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|

Question Paper Code: 41652

B.E. / B.Tech. DEGREE EXAMINATION, MAY 2017

Fifth Semester

Instrumentation and Control Engineering

14UIC502 - MICROPROCESSORS AND CONTROLLER

(Regulation 2014)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 1 = 10 Marks)

- The purpose of the microprocessor is to control
 - memory
 - switches
 - processing
 - tasks
- The work of EU is
 - encoding
 - decoding
 - processing
 - calculations
- _____ is used for serial communication interface.
 - 8251
 - 8055
 - 8237
 - 8255
- _____ a subsystem that transfer data between computer components inside a computer or between computer:
 - Chip
 - Register
 - Processor
 - Bus
- Which of the following instruction perform as of indirect RAM to accumulator?
 - MOV A, Rn
 - MOV @Ri, A
 - MOV A, @Ri
 - MOV Rn, A

6. In 8051 which interrupt has highest priority?
 (a) IE1 (b) TF0 (c) IE0 (d) TF1
7. All the functions of the ports of 8255 are achieved by programming the bits of an internal register called
 (a) data bus control (b) read logic control
 (c) control word register (d) none of the above
8. Port C of 8255 can function independently as
 (a) input port (b) output port
 (c) a either input or output ports (d) both input and output port
9. A complete transfer operation over the BUS, involving the address and a burst of data is called
 (a) Transaction (b) Transfer (c) Move (d) Procedure
10. The PCI BUS has _____ interrupt request lines.
 (a) 6 (b) 1 (c) 4 (d) 3

PART - B (5 x 2 = 10 Marks)

11. Name the segment registers of 8086 microprocessor.
12. List the instruction that affects only carry flag.
13. Write the basic components of Microcontroller.
14. What is the use of CS, A₀ and A₁ signals in 8255?
15. What are the applications of embedded system?

PART - C (5 x 16 = 80 Marks)

16. (a) (i) Draw and discuss the internal block diagram of 8085 Microprocessor. (8)
 (ii) Explain the concept of interrupt and the interrupt vector table of 8085 μ p. (8)
- Or
- (b) Draw and explain the architecture of 8086 processor. (16)
17. (a) Explain in details the addressing modes for 8085. (16)

Or

(b) Write a program to sort given 10 numbers from memory location 2200_H in the descending order. (16)

18. (a) Explain with a neat block diagram the architecture of 8051 microcontroller. (16)

Or

(b) Draw the function block diagram of 8051 and explain the operation of each block in it. (16)

19. (a) (i) Brief the salient features of a parallel programmable interface, 8255. (6)

(ii) Draw and explain the block diagram of programmable interrupt controller 8259. (10)

Or

(b) Interface with a microprocessor the signal lamps which control a road junction and implement a traffic control sequence. (16)

20. (a) (i) Give a brief notes on Exemplary applications of each type of embedded system. (8)

(ii) List about the various processors used in the embedded system. (8)

Or

(b) Explain the various forms of memories present in a system. (16)
