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

Question Paper Code: 55551

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

Fifth Semester

Electronics and Instrumentation Engineering

15UEI501 - MICROPROCESSOR AND MICROCONTROLLER INTERFACING

(Regulation 2015)

Duration: Three hours Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 1 = 10 Marks)

1. What is meant by ALU?

   (a) Arithmetic Logic Upgrade (b) Arithmetic Logic Unsigned
   (c) Arithmetic Local Unsigned (d) Arithmetic Logic Unit

2. NMI stands for

   (a) Non maskable interrupt (b) Non multiple interrupt
   (c) Non movable interrupt (d) None of these

3. CALL is a _____ instruction in 8085.

   (a) 1 byte (b) 2 byte (c) 3 byte (d) 4 byte

4. Are PUSH and POP instructions are a type of CALL instructions?

   (a) Yes (b) No (c) none of these (d) Can't be determined

5. Which of the following is not a mode of data transmission 8251?

   (a) Simplex (b) Duplex
   (c) Semi duplex (d) None of these

6. Which one of the following ICs is used to interface Keyboard and display?

   (a) 8251 (b) 8279 (c) 8259 (d) 8254

7. The internal RAM memory of the 8051 is

(a) 32 bytes (b) 64 bytes (c) 128 bytes (d) 256 bytes

8. How many bytes of bit addressable memory is present in 8051 based micro controllers?

(a) 8 bytes (b) 32 bytes (c) 16 bytes (d) 128 bytes

9. The instruction DJNZ reg, label is used for

(a) Control transfer (b) Looping
(c) Decrements and Compares with zero (d) All the above

10. The internal schematic of a typical stepper motor has

(a) 1 winding (b) 2 winding
(c) 3 winding (d) 4 winding

PART - B (5 x 2 = 10 Marks)

11. List different instruction formats.

12. Illustrate the salient features of ARM Processor.

13. Define the terms A/D & D/A convertor.

14. Distinguish between microprocessor and micro controller.

15. What are the different types of Jump instructions available in 8051?

PART - C (5 x 16 = 80 Marks)

16. (a) Recognize the different addressing modes in 8085 microprocessor and discuss each mode with an example. (16)

Or

(b) Describe the internal architecture of 8086 Microprocessor with neat diagrams. (16)

17. (a) With suitable example, discuss about 8085 microprocessor instructions used for data transfer and arithmetic instruction. (16)

Or

(b) Draw timing diagrams for the following instruction with appropriate control and status signal. Explain in brief. STA 4200. (16)

18. (a) Describe with the Block diagram of 8255(PPI) and explain its various operating modes. (16)

Or

(b) Draw and explain the logical block diagram of 8279 keyboard display controller and explain. (16)

19. (a) Illustrate in detail about the architecture of 8051 microcontroller with neat diagram. (16)

Or

(b) Explain the interrupt structure of 8051 microcontroller Explain how interrupts are prioritized. (16)

20. (a) With a neat circuit diagram, explain how 4x4 Keypad is in interfaced with 8051 microcontroller and write 8051 ALP for keypad scanning. (16)

Or

(b) Draw the diagram to interface a stepper motor with 8051 microcontroller and explain. Write its ALP to run the stepper motor in both forward and reverse direction with delay. (16)
