

Bihar Engineering University, Patna
End Semester Examination - 2023

Course: B.Tech.
Code: 110405

Semester-IV
Subject: Microprocessor

Time: 03 Hours
Full Marks: 70

Instructions:-

- (i) The marks are indicated in the right-hand margin.
- (ii) There are **NINE** questions in this paper.
- (iii) Attempt **FIVE** questions in all.
- (iv) Question No. 1 is compulsory.

Q.1 Choose the correct answer of the following (Any seven question only):

[2 x 7 = 14]

- (a) Which of the following interrupts of 8085 is non-vectored?
(i) TRAP (ii) INTR
(iii) RST 7.5 (iv) RST 5.5
- (b) What is the size of internal RAM of 8051 microcontroller?
(i) 128 bytes (ii) 256 bytes (iii) 128 KB (iv) 256 KB
- (c) How many timers exist in 8051 which is 16-bit?
(i) 0 (ii) 1 (iii) 2 (iv) 4
- (d) Pins from _____ are known as Port2 in 8051 Microcontroller.
(i) 21-28 (ii) 21-29 (iii) 20-28 (iv) 20-29
- (e) Number of I/O port in 8051 Microcontroller.
(i) 3 port (ii) 4 port (iii) 5 port (iv) 6 port
- (f) Which of the following registers are not bit addressable?
(i) SCON (ii) PCON (iii) A (iv) PSW
- (g) Which of the following comes under the indexed addressing mode?
(i) MOVX A, @DPTR (ii) MOVC @A+DPTR, A
(iii) MOV A, R0 (iv) MOV @R0, A
- (h) Which instructions have no effect on the flags of PSW?
(i) ANL (ii) ORL
(iii) XRL (iv) All of the mentioned
- (i) The ALU of 8085 microprocessor includes?
(i) Accumulator, short-term register, arithmetic & logic circuits
(ii) Arithmetic, Accumulator, logic circuits & 5 flags
(iii) Accumulator, short-term register, logic circuits, arithmetic, & 5 five flags
(iv) Accumulator, arithmetic & logic circuits
- (j) What kind of interrupts are RST0 to RST7 in the 8085 microprocessor?
(i) Logical interrupts (ii) Hardware interrupts
(iii) Conditional interrupts (iv) Software interrupts

Q.2 (a) Explain the function of the pins of 9-pin RS-232 connector. [7]
(b) Explain Briefly The Flag Register in the 8085 Microprocessor. [7]

Q.3 (a) Explain about the architecture of 8085 microprocessor with a neat diagram. [7]
(b) Explain the importance of \overline{PSEN} and \overline{EA} pins of 8051 microcontroller. [7]

Q.4 (a) Explain the addressing modes of 8051 microcontroller with suitable examples. [7]
(b) Role of microcontroller in embedded system. [7]

Q.5 (a) Explain about TMOD TCON register in 8051 microcontroller. [7]
(b) Explain ADC interfacing. [7]

- Q.6 Explain the functions of pin diagram and port configuration of 8051 microcontroller. [14]
- Q.7 (a) Explain the addressing modes of 8051 with suitable examples. [10]
(b) A switch is connected to pin P1.0 and an LED to pin P2.7. Write a program to get the status of the switch and send it to the LED. [4]
- Q.8 Explain interfacing method for turning on and off a DC motor via microcontroller. [14]
- Q.9 Sort a given list of 10 numbers stored at memory locations starting from the internal memory address 40H in ascending order. [14]



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