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

**Reg. No. :**

**Question Paper Code: 45052**

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

Fifth Semester

Electronics and Instrumentation Engineering

14UEI 502 - MICROPROCESSORS AND INTERFACING

(Regulation 2014)

Duration: Three hours Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 1 = 10 Marks)

 1. The first Microprocessor was

(a) Intel 4004 (b) 8080 (c) 8085 (d) 4008

 2. The operating frequency of 8085A microprocessor is

 (a) 3MHz (b) 5 MHz (c) 4 MHz (d) 6 MHz

 3. Mention data store instruction in a stack memory.

 (a) CALL (b) PUSH (c) POP (d) RET

 4. Which group of instructions do not affect the flags?

 (a) Arithmetic operations (b) Logical operations (c) Data transfer operations (d) Branch operations

5. Maximum number of interrupts that we can connect with Programmable Interrupt

 Controller is

 (a) 8 (b) 16 (c) 32 (d) 64

6. Mention the type of IC 8253

 (a) Programmable interrupt controller (b) Programmable interval timer (c) Programmable peripheral interface (d) Keyboard display controller

7. How many bits wide is the address bus in 8086 Microprocessor ?s.

 (a) 12 bit (b) 10 bit (c) 16 bit (d) 20 bit

8. The no of bits in 8086 flag register is

 (a) 8 (b) 10 (c) 13 (d) 16

9. IMUL source is a signed

(a) Multiplication (b) Addition (c) Subtraction (d) Division

10. The IF Flag is called as

 (a) Initial Flag (b) Indicate Flag (c) Interrupt Flag (d) Inter Flag

 PART - B (5 x 2 = 10 Marks)

11. Mention the functions of ALE and READY pins of 8085.

12. List the importance of Lookup table for programming.

13. Write down the modes of 8253 timer.

14. What is the purpose of segment registers in 8086?

15. List the instructions of 8086 that affects only carry flag.

PART - C (5 x 16 = 80 Marks)

16.(a) Draw the pin diagram of 8085 and explain the function of each pin. (16)

 Or

 (b) Draw the timing diagram of the given instruction STA 4250 (16)

.

17. (a) Give the classification of 8085 instructions and explain any SIX instructions by choosing any one category of instruction set in detail. (16)

 Or

 (b) Develop an Assembly language program to sort an array of numbers in ascending

 order using the 8085 microprocessor . (16)

18. (a) Explain in detail the architecture of 8251 interfacing with its operating modes. (16)

 Or

R(z)

$$\frac{1}{s(s+1)}$$

ZOH

C(z)

T

T

-

+

R(z)

$$\frac{1}{s(s+1)}$$

ZOH

C(z)

T

T

-

+

 (b) Write short notes on ADC interfacing. (16)

 19. (a) Draw the internal architecture of 8086 and explain the function of special purpose registers. (16)

 Or

 (b) Explain the addressing modes of 8086 microprocessor with at least two examples

 for each category. (16)

.

20. (a) Write an assembly language program to find the largest and smallest of an array of

 N-numbers. (16)

 Or

 (b) Explain Assembly directives, Procedures and Macros with examples. (16)