SUBJECT CODE :15PH/MC/MM54

B.Sc. DEGREE EXAMINATION NOVEMBER 2017
BRANCH III - PHYSICS
FIFTH SEMESTER

COURSE   :   MAJOR – CORE
PAPER   :   MICROPROCESSORS AND MICROCONTROLLERS
TIME   :   3 HOURS   MAX. MARKS :100

SECTION – A

ANSWER ALL QUESTIONS: (30 x 1 = 30)
I. CHOOSE THE CORRECT ANSWER:

1. Intel 8085 is a…. bit microprocessor.
   a. two   b. four   c. eight   d. sixteen
2. The address bus is --------
   a. multidirectional   b.tridirectional   c. bidirectional   d. unidirectional
3. Data bus is a group of …… lines.
   a. two   b. four   c. eight   d. sixteen
4. Accumulator is a ------- bit register.
   a. 4   b. 8   c. 16   d. 32
5. Which one is the part of ALU?
   a. Accumulator   b. Stack pointer   c. Program counter   d. Instruction register
6. Which is called status register?
   a.Program counter   b. Temporary register   c. Flag register   d. Stack pointer
7. Which instruction is an example of direct addressing mode?
   a.ADD   b. OUT   c. NOP   d. CMA
8. Example of single byte instruction is……
   a. HLT   b. LXI   c. MVI   d. STA
9. Addition of(2C)$_H$ and (A7)$_H$ is………
   a. (2A)$_H$ b. (D3)$_H$ c. (CA)$_H$ d. (27)$_H$
10. 2'S complement of (14)$_H$ is………..
    a. (CB)$_H$ b.(BC)$_H$ c. (CE)$_H$ d. (EC)$_H$
11. PPI chip is a ……. pin IC.
    a. 14   b. 16   c. 32   d. 40
12. Which IC is called programmable peripheral interface chip?
    a. 8085   b. 8255   c. 8285   d. 8051
13. The 8051 is a……... bit microcontroller.
    a. 8   b. 16   c. 32   d. 64
14. The 8051 contains………..bytes of read/write memory data.
    a. 32   b. 64   c. 128   d. 256
15. The 8051 microcontroller has a …. sixteen bit timer/counter.
    a. two   b. four   c. six   d. eight

Fill in the Blanks:
16. …………..are known as scratch pads
17. Data transfer instructions do not affect………. flags
18. ……… bits make a single byte.
19. I/O devices are called as…………..
20. The 8051 microcontroller has……..input/output lines.

..2

State whether TRUE or False:
21. The 8085 have five general purpose registers.
22. RRC means rotate accumulator right with carry.
23. All types of SUB instructions affect all flag.
24. Restart instructions are three byte conditional call instructions.
25. Mobile phone is an example of embedded microcontroller.

Answer Briefly:
26. What is control bus?
27. What is instruction set?
28. What is assembly language?
29. List the interrupts based on their priority.
30. What is embedded microcontroller?

SECTION - B
II. Answer any five questions : (5x5=25)

31. Explain register array in 8085.
32. Discuss the function of Arithmetic Logic Unit of 8085.
33. Discuss the addressing modes in 8085? Give two examples of each mode.
34. Write an assembly language program to multiply two 8 bit numbers.
35. Write a program to convert hexadecimal to BCD numbers.
36. Explain the interfacing of input port to 8085.
37. List the applications of 8051 microcontroller.

SECTION – C
III. Answer any three questions: (3x15=45)

38. (i) Discuss the address, data and control bus structure of 8085.
    (ii) Explain the flag registers of 8085.
39. Explain the arithmetic, logical and data transfer instructions of 8085.
40. Write an ALP for(i) Ascending order and (ii) square root of 8 bit numbers.
41. Explain the various interrupts available in 8085.
42. Explain the architecture of 8051 microcontroller with a block diagram.

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