

Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore
Master's Degree Examination – November 2017
III Semester

Class: II MCA

Max.Marks: 60

Major: Computer Applications

Time: 3 Hours

12MCAC14 MICROPROCESSORS AND MICROCONTROLLERS

Part – A

(10 X ½ = 5 Marks)

Circle the correct answer:

1. The first microprocessor was _____
a) Intel 4004 b) 8080 c) 8085 d) 4008
2. In 8085 name of the 16 bit register is
a) Stack pointer b) Program counter c) Both (a) and (b) d) None of these
3. A ____ instruction includes the opcode and operand in the same byte.
a) One-word b) Two-word c) Three-word d) None of these
4. The entire group of instructions, called the _____, determines what functions the microprocessor can perform.
a) Instruction set b) Data format c) Register d) Storage
5. The ____ contains the memory address of the next program instruction to be executed.
a) SR b) CS c) PC d) None of these
6. The Control Unit contains the circuitry that controls the process of _____ program instructions.
a) Fetching b) Decoding c) Executing d) All of these
7. Pentium II processor was introduced in the year _____.
a) 1990 b) 1995 c) 1998 d) 1992
8. What are the significant designing issues/factors taken into consideration for RISC Processors?
a) Simplicity in Instruction Set c) Register Usage Optimization
b) Pipeline Instruction Optimization d) All of the above
9. In 8051 series how many 16 bit registers are available?
a) 2 b) 3 c) 1 d) 0
10. In 8051, which interrupt has highest priority?
a) IE1 b) TF0 c) IE0 d) TF1

Part – B

(5 X 4 = 20 Marks)

Answer ALL Questions

Each answer should not exceed 200 words or one page

11. (a) Explain the 8085 bus structure with a neat sketch.
(or)
11. (b) Compare microprocessor and microcontroller.
12. (a) How are 8085 instructions classified according to their functional categories? Give examples.
(or)
12. (b) Explain the different instruction formats with examples.
13. (a) Write a program to subtract of two 8 bit numbers using 8085.
(or)
13. (b) Give a brief note on co-processor.
14. (a) Mention and explain various characteristics of Pentium Microprocessor.
(or)
14. (b) Briefly explain the Pentium pro microprocessor.
15. (a) Explain the interrupt structure of 8051 microcontroller.
(or)
15. (b) Discuss briefly the various registers in 8051 microcontroller.

Part – C

(5 X 7 = 35 Marks)

Answer ALL Questions

Each answer should not exceed 600 words or three pages

16. (a) Enumerate on assembly language in microprocessor.
(or)
16. (b) Explain in detail the addressing modes of 8085 with suitable examples.
17. (a) Discuss the concept of programming model in detail.
(or)
17. (b) Write a addition program of two 8 bit number using 8085.
18. (a) Describe the concept of microprocessor architecture in detail.
(or)
18. (b) Give a brief note on memory management and interfacing.
19. (a) Explain about RISC.
(or)
19. (b) Discuss in detail about Pentium III and IV microprocessor.
20. (a) Explain the working principle of 8051 microcontroller.
(or)
20. (b) Explain the data memory structure of 8051 microcontroller.