

Total No. of printed pages = 7

**RETEST EXAMINATION-2019**

Semester : 3rd (Old)

Subject Code : CO-305

**COMPUTER ARCHITECTURE  
AND ORGANIZATION**

Full Marks - 70

Time - Three hours

The figures in the margin indicate full marks  
for the questions.

**Instructions :**

1. Questions on PART - A are compulsory.
2. Answer any *five* questions from PART - B.

**PART - A**

Marks - 25

1. Fill in the blanks :  $1 \times 10 = 10$ 
  - (a) Floating point representation is used to store \_\_\_\_\_ numbers.
  - (b) The BCD representation of 345 is \_\_\_\_\_.
  - (c) The two's complement of 10010011 is \_\_\_\_\_.

[Turn over

- (d) 1 kilobyte is equal to \_\_\_\_\_ B.
- (e) The full form of CRT is \_\_\_\_\_.
- (f) Intel 8085 is a \_\_\_\_\_ bit microprocessor.
- (g) PROM stands for \_\_\_\_\_.
- (h) ASCII stands for \_\_\_\_\_.
- (i) Mouse is a \_\_\_\_\_ device.
- (j) The surface of the magnetic disk is divided into a number of concentric circles called \_\_\_\_\_.
2. Write true or false :  $1 \times 10 = 10$
- (a) EBCDIC is a character code.
- (b) Error detecting codes are used to detect errors during the data transmission.
- (c) ROM is a volatile memory.
- (d) The instructions like MOV or ADD are called as Op code.
- (e) Flags are Status registers.
- (f) Magnetic tapes are generally made up of semiconductors.

15/CO-305/CA&O (O) (2)

- (g) MAR and MBR are general purpose registers.
- (h) Handshaking mode of data transfer is synchronous data transfer.
- (i) Interrupts initiated by an instruction is called as memory interrupt.
- (j) In programmed I/O, data are exchanged between processor and I/O module.

3. Choose the correct answer :  $1 \times 5 = 5$

- (a) Light Pen is an
- (i) Input device
- (ii) Output device
- (iii) Memory device
- (iv) None of the mentioned
- (b) In a microprocessor, the address of the new next instruction to be executed is stored in
- (i) Program counter
- (ii) Address register
- (iii) Data register
- (iv) None of the mentioned

15/CO-305/CA&O (O) (3)

[Turn over

(c) Which of the following is not a part of the Central Processing Unit ?

- (i) Control unit
- (ii) Memory unit
- (iii) I/O unit
- (iv) Arithmetic and Logic unit

(d) The fastest data access is provided using \_\_\_\_\_.

- (i) Caches
- (ii) DRAM
- (iii) SRAM
- (iv) Registers

(e) Which of the following is used between CPU and RAM to speed up the processing power of CPU ?

- (i) Virtual memory
- (ii) DRAM
- (iii) Flash memory
- (iv) Cache memory.

15/CO-305/CA&O (O) (4)



PART - B  
Marks - 45

4. (a) What do you mean by signed number representation by computer system ? 3

(b) What are weighted and non-weighted codes ? Give examples. 4

(c) What do you mean by error correcting code ? 2

5. (a) Explain the function of ALU of a computer. 3

(b) Mention the general purpose registers of Intel 8085 microprocessor. 2

(c) What are flags ? Name them and state their purposes. 4

6. (a) Write briefly about one byte instruction and two byte instruction. 4

(b) Write briefly about RISC. 3

(c) Write briefly about hardwired control unit. 2

15/CO-305/CA&O (O) (5)

Turn over

7. (a) What do you mean by DMA ? Write its basic principle and how it works ? 5

(b) Write notes on maskable and non-maskable interrupts. 2

(c) Write briefly about keyboard. 2

8. (a) Differentiate between memory mapped I/O and Isolated I/O. 3

(b) Draw the block diagram of Intel 8085 microprocessor and explain briefly about each unit. 6

9. (a) Differentiate between EPROM and ROM. 2

(b) Write brief note on cache memory and memory hierarchy. 7

10. Write brief notes on : 3+6=9

(i) Hard disk

(ii) Impact and non-impact printer.

15/CO-305/CA&O (O) (6)

11. Explain Booth's algorithm for multiplication of signed numbers. Multiply -10 and 7 using Booth's multiplication algorithm. 9

12. Define addressing modes. Explain briefly the different types of addressing mode. 2+7=9

15/CO-305/CA&O (O) (7)

300(W)