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RETEST EXAMINATION – 2022

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. *All* questions of PART–A are compulsory.
2. Answer any *five* questions from PART–B.

PART – A

Marks – 25

1. Choose the correct answers : $1 \times 10 = 10$
 - (i) Actual execution of instruction in a computer takes place in
 - (a) ALU
 - (b) Control Unit
 - (c) Storage Unit
 - (d) None of these

[Turn over

(ii) In computer, subtraction is generally carried out by

- (a) 2's complement
- (b) 10's complement
- (c) 1's complement
- (d) 9's complement



(iii) Status registers are also called

- (a) Memory Address Registers
- (b) Flags
- (c) Instruction Registers
- (d) Program Counter

(iv) RAM is not suitable for permanent storage because it is

- (a) too slow
- (b) unreliable
- (c) it is volatile
- (d) too bulky

(v) The instructions like MOV or ADD are called as

- (a) OP-Code
- (b) Operators
- (c) Command
- (d) None of these

- (vi) ALU is
- (a) Arithmetic Logic Unit
 - (b) Array Logic Unit
 - (c) Application Logic Unit
 - (d) None of the above



- (vii) Which of the following is a part of the Central Processing Unit ?

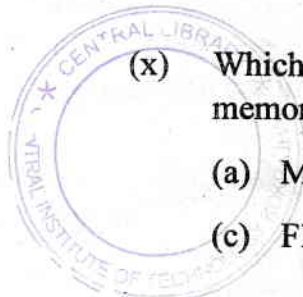
- (a) Printer
- (b) Keyboard
- (c) Mouse
- (d) Control unit

- (viii) VDU is a

- (a) Keyboard
- (b) Mouse
- (c) Monitor
- (d) Mother board

- (ix) DMA stands for

- (a) Distinct Memory Access
- (b) Direct Memory Access
- (c) Direct Module Access
- (d) Direct Memory Allocation



(x) Which of the following is used as a primary memory device ?

- (a) Magnetic Tape (b) PROM
- (c) Floppy Disk (d) Hard-disk

2. State true or false of the following :

1×10=10

- (a) ASCII is a character code.
- (b) Intel 8085 is a 32 bit microprocessor.
- (c) Assembly language makes use of mnemonics.
- (d) Accumulator is a CPU register.
- (e) Nibble is a group of 4 bits.
- (f) Hard-disk is a main memory device.
- (g) To reduce the memory access time we generally make use of Caches.
- (h) In polling processor checks the status flag.
- (i) In memory-mapped I/O, the I/O devices and the memory do not share the same address space.
- (j) In immediate addressing, operand is in the instruction itself.

3. Fill up the blanks :

1×5=5

- (a) Give the BCD representation of 237 is _____.
- (b) Full form of MBR is _____.
- (c) 1 Megabyte is equal to _____ KB.
- (d) In memory hierarchy _____ are at the top level.
- (e) Cache is placed between processor and _____.

PART – B

Marks – 45

4. (a) Draw the block diagram of 8085 micro-processor. 6
- (b) Find the 2's compliment form (Use 8 bit) of the number 1010. 3
5. (a) What is an addressing mode ? Define Immediate addressing mode and Direct addressing mode. 5
- (b) Write brief notes on static RAM and dynamic RAM. 4

6. (a) Define 1-byte instructions and two byte instructions with examples. 4
- (b) Write briefly about Microprogram control unit. 5
7. (a) What do you mean by Memory Hierarchy ? Explain briefly. 4
- (b) Write notes on maskable and non-maskable interrupts. 5
8. (a) Write briefly about memory mapped I/O and Isolated I/O. 3
- (b) Define the following terms with respect to Hard-disk : 6
- (i) Sector
- (ii) Track
- (iii) Cylinder.
9. (a) What are computer registers ? Name them and write their purposes. 5
- (b) What do you mean by DMA ? What is its function ? 4

10. (a) Write brief notes on Programmed I/O and interrupt initiated I/O. 4

(b) Write a brief note on impact printer and non impact printer. 5

11. Write short notes on : 3×3=9

(a) Hardwired Control Unit

(b) Booth's algorithm

(c) Cache Memory.

