

- Explain general register organization with the help of a diagram.
- Explain DMA controller with the help of a diagram.
- Explain memory hierarchy in detail with the help of a diagram.
- What is an instruction format? Explain different types of instructions.
- Convert:  
i)  $(10101)_2$  to decimal.  
ii) Decimal  $(25)_{10}$  to binary.

**COMPUTER ARCHITECTURE**  
**4<sup>th</sup> Exam/Comp/IT/CSE/3621/May'18**

**Duration: 3Hrs.**

**M.Marks:75**

**SECTION-A**

**Q1. Do as directed.**

**10x1.5=15**

- a. Octal number system is \_\_\_\_\_ number system.
- b. Two types of Parity systems are \_\_\_\_\_ and \_\_\_\_\_.
- c. ASCII is \_\_\_\_\_ bit code.
- d. RAM can be classified into \_\_\_\_\_ and \_\_\_\_\_.
- e. WORM stands for \_\_\_\_\_.
- f. Memory accessed by its contents is called \_\_\_\_\_ memory.
- g. 2's Complement of  $(12)_{10}$  is \_\_\_\_\_.
- h. Floating Point Numbers has two parts \_\_\_\_\_ and \_\_\_\_\_.
- i. \_\_\_\_\_ Algorithm multiplies binary numbers in signed 2's complement representation.
- j. The ratio of number of hits divided by total CPU references to memory is \_\_\_\_\_.

**SECTION-B**

**Q2. Attempt any five questions.**

**5x6=30**

- i. Explain RAM chip with diagram.
- ii. Define Addressing Modes. Explain various types of Addressing Modes.
- iii. What is parallel processing? Explain with diagram.
- iv. Explain DMA with diagram.
- v. Define Stack. Explain register stack.
- vi. Explain Memory Map.
- vii. What is Gray Code? Explain?

**SECTION-C**

**Q3. Attempt any three questions.**

**3x10=30**

- a. Explain various modes of data transfer.
- b. Define Auxiliary Memory? Explain Magnetic disks.
- c. What is instruction format? Explain in detail.
- d. Explain algorithm for addition and subtraction.

S.B. Roll No.....

**COMPUTER ARCHITECTURE**  
**4<sup>th</sup> Exam/Comp/IT/CSE/3621/Sep'2020**

**Duration: 1.15 Hrs.**

**M.Marks:25**

**SECTION-A**

**Q1. Attempt any three questions.**

**3x5=15**

- a. Explain RAM chip with diagram.
- b. Explain SHIFT MICRO OPERATIONS
- c. Write down characteristics of RISC and CISC.
- d. Explain Addition algorithm
- e. What do you mean by addressing mode? Explain any two.
- f. Write short note on Gray code.
- g. What do you mean by FIFO buffer? Give neat and clean diagram of 4X4 FIFO buffer.
- h. Write short note of cache memory.
- i. Write short note on interrupt initiated I/O operation.

**SECTION-B**

**Q2. Attempt any one questions.**

**1x10=10**

- i. What is a DMA Controller? Describe along with its working using suitable diagrams.
- ii. Explain memory hierarchy in detail with the help of a diagram
- iii. Convert: i)  $(10001110)_2$  to decimal. ii) Decimal  $(25)_{10}$  to binary.

S. B. Roll. No.....

**COMPUTER ARCHITECTURE**  
**4<sup>th</sup> Exam/COMP/IT/CSE/3621/Jun'2021**

**Duration: 1.15Hrs.**

**M.Marks:25**

**SECTION-A**

**Q1. Attempt any three questions.**

**3x5=15**

- i. What do you mean by addressing mode? Explain any five.
- ii. Explain Daisy Chain priority interrupt.
- iii. Explain the concept of pipeline processing.
- iv. Explain the various instruction formats used in CPU with suitable examples?
- v. Write in brief about Cache memory.
- vi. Give a short note on Memory connection to CPU.
- vii. Differentiate between RISC vs CISC characteristics.

**SECTION-B**

**Q2. Attempt any one question.**

**1x10=10**

- a. What is a DMA Controller? Describe along with its working using suitable diagrams.
- b. Write a short note on :  
i) Input-Output Interface      ii) Booth's multiplication algorithm
- c. Explain general register organization with the help of a diagram.
- d. What is Stack organization? Enlist its various operations with their microoperations.

S.B. Roll. No.....

**COMPUTER ARCHITECTURE**  
**4<sup>th</sup> Exam/COMP/IT/CSE/3621/Jun'2022**

**Duration: 3Hrs.**

**M.Marks:75**

**SECTION-A**

**Q1. Do as directed.**

**15x1=15**

- a. Static and \_\_\_\_\_ memory are two main types of RAM.
- b. What do you mean by DMA?
- c. Briefly discuss Instruction format.
- d. Define Cache memory.
- e. Define Gray code.
- f. CISC stands for \_\_\_\_\_.
- g. LIFO stands for \_\_\_\_\_.
- h. What is stack?
- i. What do you mean by binary number system?
- j. 2's complement of 1010 is \_\_\_\_\_.
- k. A byte contains \_\_\_\_\_ bits.
- l. Convert decimal (25) into binary.
- m. Define BCD
- n. Define Parallel Processing.
- o. What do you mean by ALU?

**SECTION-B**

**Q2. Attempt any six questions.**

**6x5=30**

- i. Differentiate between RISC & CISC.
- ii. Discuss concept of memory hierarchy.
- iii. Explain various components of CPU.
- iv. Define control word. Discuss it with an example.
- v. Explain data transfer techniques in brief.
- vi. What is 2's complement? Explain with an example
- vii. What is an interrupt? Explain basic types of interrupt.
- viii. Write a short note on stack organization.

**SECTION-C**

**Q3. Attempt any three questions.**

**3x10=30**

- a. Define Addressing modes. Describe various addressing modes with an example.
- b. Explain DMA controller with diagram in detail.
- c. Explain general register organization with suitable diagram.
- d. Describe concept of virtual memory using paging and segmentation.
- e. Explain cache memory organization in detail.

S.B. Roll. No.....

**COMPUTER ARCHITECTURE**  
**4<sup>th</sup> Exam/CSE/IT/0495/Jun'2022**  
**(For 2018 Batch Onwards)**

**Duration: 3Hrs.**

**M.Marks:75**

**SECTION-A**

**Q1. Do as directed.**

**15x1=15**

- BCD stands for \_\_\_\_\_.
- ASCII stands for \_\_\_\_\_.
- An \_\_\_\_\_ code field specifies the operation to be performed.
- Fixed point number may not represent integers. (True/False)
- The operation of insertion in a stack is known as PUSH. (True/False)
- EBCDIC stands for \_\_\_\_\_.
- ROM stands for \_\_\_\_\_.
- RAM stands for \_\_\_\_\_.
- Magnetic disks, magnetic tapes are examples of Auxiliary memory. (True/False)
- A dedicated computer is assigned to one task. (True/False)
- 2's complement = 1's complement + \_\_\_\_\_.
- Serial interface is faster than parallel interface. (True/False)
- MIMD stands for \_\_\_\_\_.
- A nibble contains \_\_\_\_\_ bits.
- WORM stands for \_\_\_\_\_.

**SECTION-B**

**Q2. Attempt any six questions.**

**6x5=30**

- Write a note on Gray code and BCD Code.
- Differentiate between CISC and RISC?
- Write a short note on interrupt cycle.
- Differentiate between primary memory and secondary memory.
- What do you mean by addressing mode? Explain any three.
- Explain register and memory stack in detail.
- Convert the following:-  
a)  $(0.1101)_2 = (?)_{10}$                       b)  $(131)_8 = (?)_{10}$
- Explain 2's complement with the help of an example.

**SECTION-C**

**Q3. Attempt any three questions.**

**3x10=30**

- Explain the concept and working of DMA Controller in detail.
- Explain memory hierarchy in detail with help of a diagram.
- Describe the following:-  
a) Input-Output Interface                      b) Associative Memory
- Explain the Booth multiplication algorithm with an example.
- What do you mean by pipelining? Explain with the help of example.