

Exam.Code:0976

Sub. Code: 7113

2063

M. Tech. (Micro-Electronics)
Second Semester
MIC-202: Architecture of VLSI Design

Time allowed: 3 Hours

Max. Marks: 50

NOTE: Attempt five questions in all, including Question No. 1 which is compulsory and selecting two questions from each Unit.

x-x-x

I. Attempt the following:-

- a) Discuss the architecture of arithmetic and logic Unit.
- b) Explain how the speed of a micro processor can be increased?
- c) Give the salient features of machine language.
- d) Give some features of a DRAM.
- e) What is pipelining in VLSI architectures? (5x2)

UNIT - I

- II. a) Give a historical perspective of the development of VLSI architectures.
b) Explain how various CPU operation are carried out using software.
c) Explain how a CPU interacts with a memory unit? (4,4,2)
- III. a) What is a subroutine? Explain how they are called in a CPU operation?
b) What is an instruction set? How it is designed? What is its format? (5,5)
- IV. Write notes on:-
 - a) Cache memory design
 - b) CPU- Memory Interaction (5,5)

UNIT - II

- V. A) Differentiate between a primary storage and a secondary storage device.
b) Differentiate between programmed control I/O transfer and interrupt controlled I/O transfer.
c) What is DMA? (4,3,3)

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(2)

- VI. a) Differentiate between a RISC architecture and a CISC architecture
b) Explain the types of interconnects used in VLSI architectures.
c) Compare a microprocessor and a multiprocessor. (10)

- VII. Write notes on:-
a) Issue of deadlock in multiprocessor systems
b) Concept of parallel processing (5,5)

x-x-x