

Printed Pages – 3

Roll No.

C028534(022)

B. Tech. (Fifth Semester) Examination, Nov.-Dec. 2021

ACTE (New Scheme)

(Elec. & Tele. Comm. Engg. Branch)

**COMPUTER ORGANIZATION AND
ARCHITECTURE**

Time Allowed : Three hours

Maximum Marks : 100

Minimum Pass Marks : 35

Note : Attempt all questions. Part (a) of each question is compulsory. Attempt any two from (b), (c) and (d) parts of each question. Assume if any data is missing.

Unit-I

1. (a) What is Bus? Explain different types of buses. 4
- (b) Describe various types of Addressing modes with example. 8

C028534(022)

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[2]

- (c) Explain various field of instruction format. Also write types of instructions used in computer system. 8
- (d) What is register transfer language? Explain briefly. 8

Unit-II

2. (a) What is control memory? 4
- (b) Differentiate between Hardwire control and Micro-program control organization. 8
- (c) Explain Microinstruction format. 8
- (d) What is instruction interpretation? 8

Unit-III

3. (a) Differentiate between fixed point and floating point number. 4
- (b) Explain multiplication algorithm with hardware implementation. 8
- (c) Design hardware implementation for fixed point addition subtraction and explain it. 8
- (d) How to design control unit for performing various arithmetic operations. 8

[3]

Unit-IV

4. (a) Define 10 instructions. 4
- (b) Write short notes on DMA with diagram. 8
- (c) Discuss about Loosely Coupled & Tights Coupled System. 8
- (d) Write difference between RISC and CISC. 8

Unit-V

5. (a) Define cache memory in brief. 4
- (b) Write short notes on : Semiconductor memory and Associative memory. 8
- (c) Explain memory hierarchy. 8
- (d) What is memory interleaving? 8