[Nov -23]

GITAM (Deemed to be University)
[CSEN2011]
GST/GSS/GSB/GSHS Degree Examination

V Semester

COMPUTER ORGANIZATION AND ARCHITECTURE

(Effective for the admitted batch 2021-2022)

Time: 2 Hours **Max. Marks: 30**

Instructions: All parts of the unit must be answered in one place only.

Section-A

1. **Answer all Questions:** **(5×1=5)**

   a) Define the register transfer language with an example.
   b) Define Microinstruction.
   c) What is Stack?
   d) What do you mean by the term "cycle stealing"?
   e) Illustrate the difference between SRAM and DRAM.

Section-B

Answer the following: **(5×5=25)**

UNIT-I

2. Design Bus system for Four-bit register using 4x1 Mux.

OR

3. List out the Register transfer notations for Arithmetic Micro Operations.

UNIT-II

4. What is an instruction cycle and explain the phases of instruction cycle?

OR

5. Using the register transfer notations, explain the Memory-Reference instructions with examples.

UNIT-III

6. Discuss implementation of Register stack and Memory stack.

OR

7. Evaluate the expression X=(A+B) * (C+D) using various Address Instruction formats.

UNIT-IV

8. Define I/O interface. With neat diagram explain the structure of general I/O interface.

OR

9. Discuss Strobing and Handshaking mechanisms for implementing Asynchronous Transfer.

UNIT-V

10. Define Memory Hierarchy. State the goals and objectives of Memory hierarchy.

OR

11. With an example, illustrate the implementation of large memory using smaller RAM chips.