

2005 ANDHRA UNIVERSITY M.C.A

COMPUTER ORGANIZATION

Time: 3 Hrs.

Max. Marks: 100

First Question is Compulsory

Answer any four from the remaining

Answer all parts of any Question at one place.

- What is the difference between Combinational Logic and Sequential Logic?
 - What is the type of control unit in 8085 Microprocessor?
 - What is the data transfer rate of PCI bus?
 - Distinguish between microinstruction and nanoinstruction
 - What is IEEE 754?
 - What is the difference between real memory and virtual memory?
 - What do you understand by internal interrupt?
- Verify whether the expression given below is valid using algebraic method only. $ab' + bc' + ca' = a'b + b'c + c'a$
 - Design a two bit comparator that compares two 2-bit values in whole, rather than one bit at a time. The circuit has inputs X_1X_0 and Y_1Y_0 , and outputs $X > Y$, $X = Y$, and $X < Y$
- Show the hardware including logic gates for the control function that implements the RTL statement $xy1T_0+T_1+x1yT_2 : A \rightarrow A+1$
 - Write 8085 assembly language program to calculate the Fibonacci value $f(n)$, where $f(0) = f(1) = 1$ and $f(n) = f(n-1) + f(n-2)$ for $n > 1$. Assume that $n > 1$ and the result will be less than 256
- Describe the mechanism of an instruction fetching, decoding and execution using flow chart?
 - Describe the major hardware functional units of 8085 microprocessor with a neat complete functional block diagram.
- Show how nine bit micro operation field in a micro instruction can be divided into sub fields? Explain with an example.
 - What are the functions performed by an I/O interface? Explain with an example.
- Compare and contrast isolated I/O and memory mapped I/O.
 - Why does I/O interrupt make more efficient use of the CPU?
- Explain the need of the memory hierarchy?
 - What is the associate memory and what kind of operation it is more suitable?
- Write short notes on
 - Signed Notation in Computer Arithmetic
 - Instruction formats
 - DMA
 - VHDL