Digital Electronics 2BCA1-QB

Unit 1

1. Explain Number System and the data types.
2. Differentiate between Decimal, Binary and Octal Number System.
3. What do you mean by 1's complement and 2's complement? Explain it with the help of example.
4. How can you perform arithmetic operations on Binary Numbers? Give suitable example for addition and deletion.
5. Explain the fixed point and floating point representation.
6. Explain Gray Codes and BCD.
7. What do you understand by ASCII and Excess 3?
8. Describe Error Detection & Correcting Codes.

Unit 2

1. Explain Logic Gates.
2. Derive truth tables for AND, OR, NOT, NOR, NAND, XOR.
3. Derive De- Morgan's Law.
4. What are the basic Boolean Laws?
5. What do you mean by Minimization Technique?
6. Explain Pairs, Quads, and Octets.
7. What do you understand by "Don't Care Conditions"?
8. Design AND, OR, NOT using NOR Gate.

Unit 3

1. Explain Half Adder & Full Adder with the help of suitable diagram.
2. What do you understand by decimal adder?
3. What are decoders?
4. Explain Multiplexers. Draw diagrams of each.
5. What do you mean by multilevel NAND Circuits
6. What is Full Subtractor?
7. Explain Code Conversion.
8. What do you understand by Serial-In Serial-Out Shift Register?
9. What do you mean by Synchronous & Asynchronous data transfer mode?

Unit 4

1. What do you mean by Flip Flops?
2. Draw suitable diagrams for RS Flip Flop.
3. Draw suitable diagrams for JK Flip Flop.
4. Explain Racing Condition.
5. What do you mean by Triggering in Flip Flops?
6. What are sequential circuits?
7. What do you understand by design of counters?
8. What is State Reduction & Assignment?
9. Discuss various I/O interfaces.

Unit 5

1. What are Registers and Shift registers?
2. Explain the types of counters giving examples of each.
3. Explain in detail Ripple Counters.
4. What do you understand Arithmetic Logic and Shift Micro Operation?
5. What are Instruction Codes?
6. Explain Processor Organization.
7. Explain in brief Associative Memory, Virtual Memory, Semiconductor Memory.

SANCHITA GHOSH
(ASST. PROF)
IT DEPT