BSc Odd semester Question bank
Paper title: Computer Organisation
Unit :I

Short questions:

1. Draw the logic circuits and truth tables of NAND and NOR latch.
2. Write about level triggering and edge triggering.
3. What is a race condition? How race condition is avoided in J-K master slave flip flops?
4. Write a need for preset and clear inputs.
5. Define register. State a need of a register.
6. What is a binary counter? List the types of binary counters.
7. Write the differences between latch and flip- flop.

Essay questions:

1. Mention the similarities and differences between flip flop and latch.
2. Draw the logic diagram of a SR latch using NOR gates explain its operation using Excitation table.
3. Draw clocked SR flip flop using NAND gates and explain.
4. Explain the operation of JK –Flip flop with neat sketch.
5. Define register. Design 4-bit register using D-Flip flop with gated clock and enable inputs.
6. Explain the working of 4 –bit shift register.
7. Explain the procedure to design a counter using SR –Flip flop.
8. Derive the input equations for the following flip flops.
   (a) S-R flip-flop
   (b) J-K flip-flop
   (c) T flip flop

Unit :II

Short questions:

1. What is sequential circuit?
2. Define state assignment
3. What is PLA?
4. Define CAD?
5. Define serial binary adder.

Essay questions:

1. Explain the design of code converter(BCD to EX-3) using flip-flops and logic gates.
2. Explain the design of sequential circuit using ROMs and PLAs.
3. Explain the design of an iterative circuit.
4. Write in detail about the testing in sequential circuit.
5. Briefly explain the use of CAD in IC fabrication.
6. Draw and explain the block diagram of a serial adder with accumulator.
7. Draw the state diagram for multiplexer and implement the corresponding state machine model.
8. Explain the design of a binary divider.