

S.No. 1	<p>a) Simplify the Boolean function F together with don't-care conditions d in sum of products form by using K-map.</p> $F(a,b,c,d)=\Sigma(4,5,6,9,11)$ $d(a,b,c,d)=\Sigma(12,13,14,15)$ <p>b) Give the Characteristic table (truth table) of: JK flip-flop ii) D flip-flop iii) T flip-flop</p>
2.	<p>a) Design a 4-bit binary counter using JK flip-flop.</p> <p>b) Given a 32 X 8 ROM chip with an enable input, show the external connections necessary to construct a 128 X 8 ROM with four chips and a decoder.</p>
3.	<p>a) Draw the logic diagram of a 2 to 4 line decoder with only NOR gates. Include an enable input.</p> <p>b) What is a multiplexer? Draw the block diagram of a 4 to 1 line multiplexers. Draw the function Table.</p>
4	<p>a) What is the difference between micro programmed & hardwired Control?</p> <p>b) Convert $(136.204)_8 = (\quad)_{16}$</p> <p>c) Write the steps to execute (RTL) the following instruction ADD M1,M2,M3 (M1 = M2 + M3, Mi is the memory location)</p>
5	<p>Show the contents of register A,E,Q and SC during the BCD division of 1680/32. Assume two digit registers.</p>
6	<p>Explain with the help of diagram Daisy chaining Priority Technique of Interrupt initiated I/O.</p>
7	<p>What is an omega topology under Multistage switching network of interconnection structures? Construct a diagram of a 4 X 4 omega switching network. Show the switch setting required to connect input 3 to output 1.</p>