4ME3-21: DIGITAL ELECTRONICS LAB

1 To verify the truth tables of basic logic gates: AND, OR, NOR, NAND, NOR. Also to verify the truth table of Ex-OR, Ex-NOR (For 2, 3 & 4 inputs using gates with 2, 3, & 4 inputs). - https://youtu.be/AT_GjUjNFpo

2 To verify the truth table of OR, AND, NOR, Ex-OR. Ex-NOR realized using NAND & NOR gates. - https://youtu.be/AT_GjUjNFpo

3 To realize an SOP and POS expression.- https://youtu.be/g5tumX5J8MM

4 To realize Half adder/ Subtractor & Full Adder/ Subtractor using NAND & NOR gates and to verify their truth tables. - https://youtu.be/WSlps_fT5yg

5 To realize a 4-bit ripple adder/ Subtractor using basic half adder/ Subtractor & basic Full Adder/ Subtractor. - https://youtu.be/WSlps_fT5yg

6 To verify the truth table of 4-to-l multiplexer and l-to-4 demultiplexer. Realize the multiplexer using basic gates only. Also to construct and 8-to-1 multiplexer and l-to-8 demultiplexer using blocks of 4-to-1 multiplexer and 1-to-4 demulriplexer. -https://youtu.be/4kgPMT9k3bg

7 Design & Realize a combinational circuit that will accept a 2421 BCD code and drive a TIL -3 I 2 seven-segment display.- https://youtu.be/4kgPMT9k3bg

 8 Using basic logic gates, realize the R-S, J-K and D-flip flops with and without clock signal and verify their truth table. - https://youtu.be/AT_GjUjNFpo

9 Construct a divide by 2, 4 & 8 asynchronous counter. Construct a 4-bit binary counter and ring counter for a particular output pattern using D flip flop. - https://youtu.be/AT_GjUjNFpo

10 Perform input/output operations on parallel in/parallel out and Serial in/Serial out registers using clock. Also exercise loading only one of multiple values into the register using multiplexer.- https://youtu.be/AT_GjUjNFpo