

UCS704 EMBEDDED SYSTEMS DESIGN

Experiment 1 (Truth Table and Logic Gates)

To study and verify the truth table of various logic gates (NOT, AND, OR, NAND, NOR, EX-OR, & EX-NOR).

Experiment 2 (Half Adder)

To design and verify a half adder using $S = (x+y)(x'+y')$ $C = xy$

Experiment 3 (Full Adder)

To design and verify a full adder using $S = x'y'z + x'yz' + xy'z' + xyz$ $C = xy + xz + yz$

Experiment 4 (Half Subtractor)

To design and verify a half subtractor using $D = x'y + xy'$ $B = x'y$

Experiment 5 (Number Converter)

Design a BCD to Excess 3 code converter using combinational circuits.

Experiment 6 (Multiplexer)

To design and implement a 4:1 multiplexer

Experiment 7 (Demultiplexer)

To design and implement a 1:4 demultiplexer.

Experiment 8 (Decoder)

To design and verify a 2:4 decoder.

Experiment 9 (Encoder)

To design and implement a 4:2 encoder.

Experiment 10 (Flip-Flops)

To design and verify the operation of D flip-flops using logic gates.

Experiment 11 (Flip-Flops)

To design and verify the operation of JK flip-flops using logic gates.

Experiment 12 (Counter)

To verify the operation of asynchronous counter.