

**Hazara University Mansehra**

**Department of Computing & IT**

Subject Name: Digital Logic & Design

Course Code: CS-211

BSCS 4th (A+B)

**Assignment 2**

Q1: a) Explain decoder and encoder.

b) Write applications of both decoder and encoder.

c) Write appropriate example for both decoder and encoder.

Q2: a) Explain Multiplexers and Demultiplexers.

b) Write applications of both multiplexer and demultiplexer

c) Write appropriate example for both,

Q3: Implement 4 to 1 Multiplexing using Gates.

1. Write the truth table for a 2 to 1 MUX, design a circuit from it, implement it on the trainer and verify the results.
2. Write down the truth table for a 4 to 1 MUX, draw the circuit, implement it on the trainer and verify the results.

Q4: Implementation of a 2 to 4 Decoder

1. Write truth table for a 2 to 4 decoder with enable bit in it.
2. Draw the gate diagram of a 2 to 4 decoder.
3. Implementation of a 2 to 4 decoder on trainer using three input AND gate with enable bit as active low and verify with truth table.