A green tree on a black background

Description automatically generated

**Birzeit University**

**Faculty of Engineering and Technology Department of Electrical and Computer Engineering**

**First Semester – 2023/2024**

**ENCS2340 - Digital Systems**

**Homework # 2**

Student name : Mohammad Sheikh

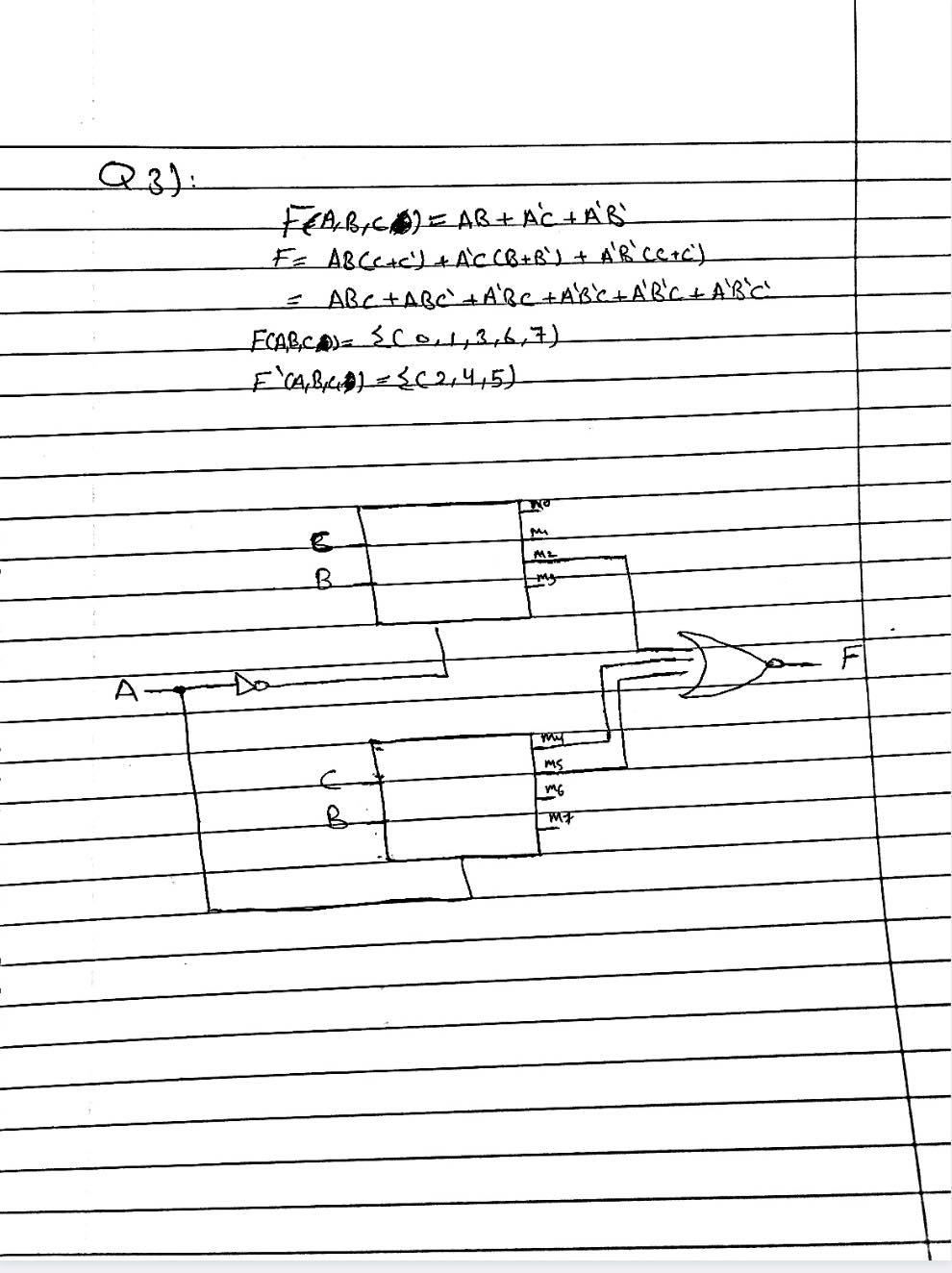
Student ID : 1221541

Q1 )

A diagram of a circuit

Description automatically generated with medium confidence

Q3)



Q4 )

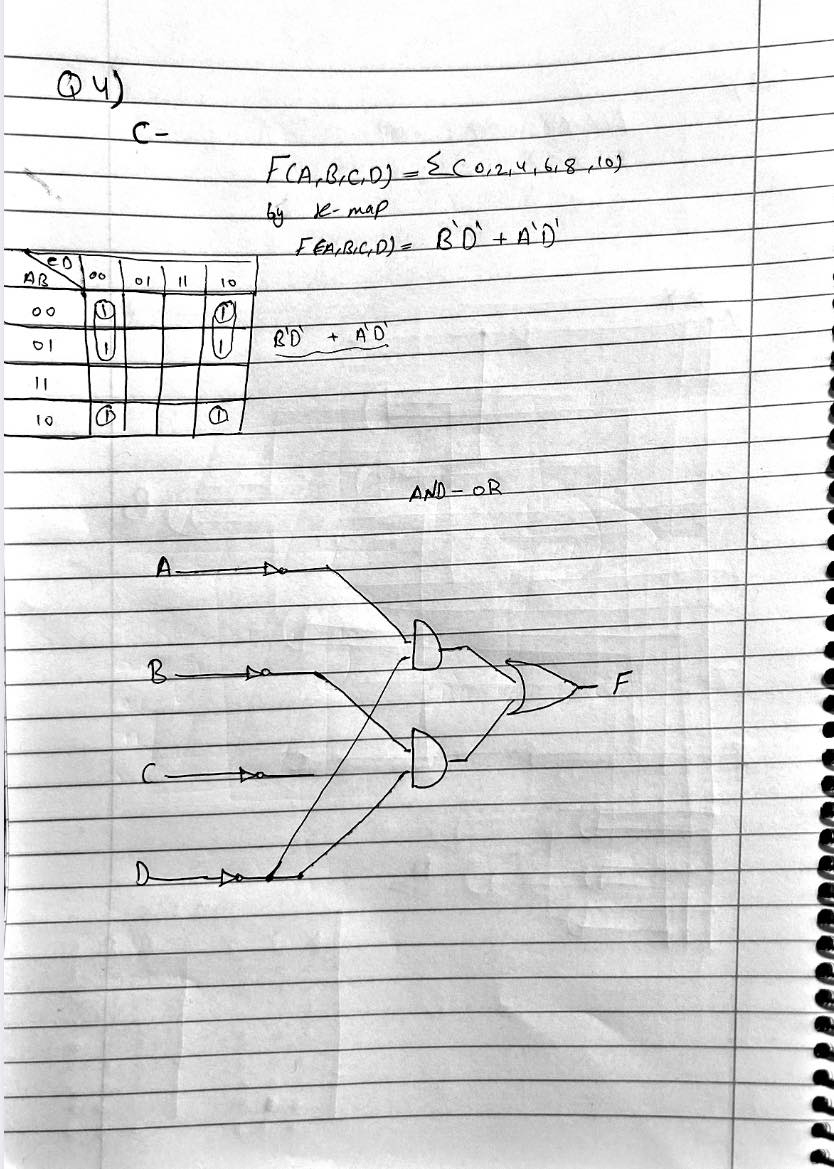
B –

A notebook with a diagram

Description automatically generated

Q4 )

C-



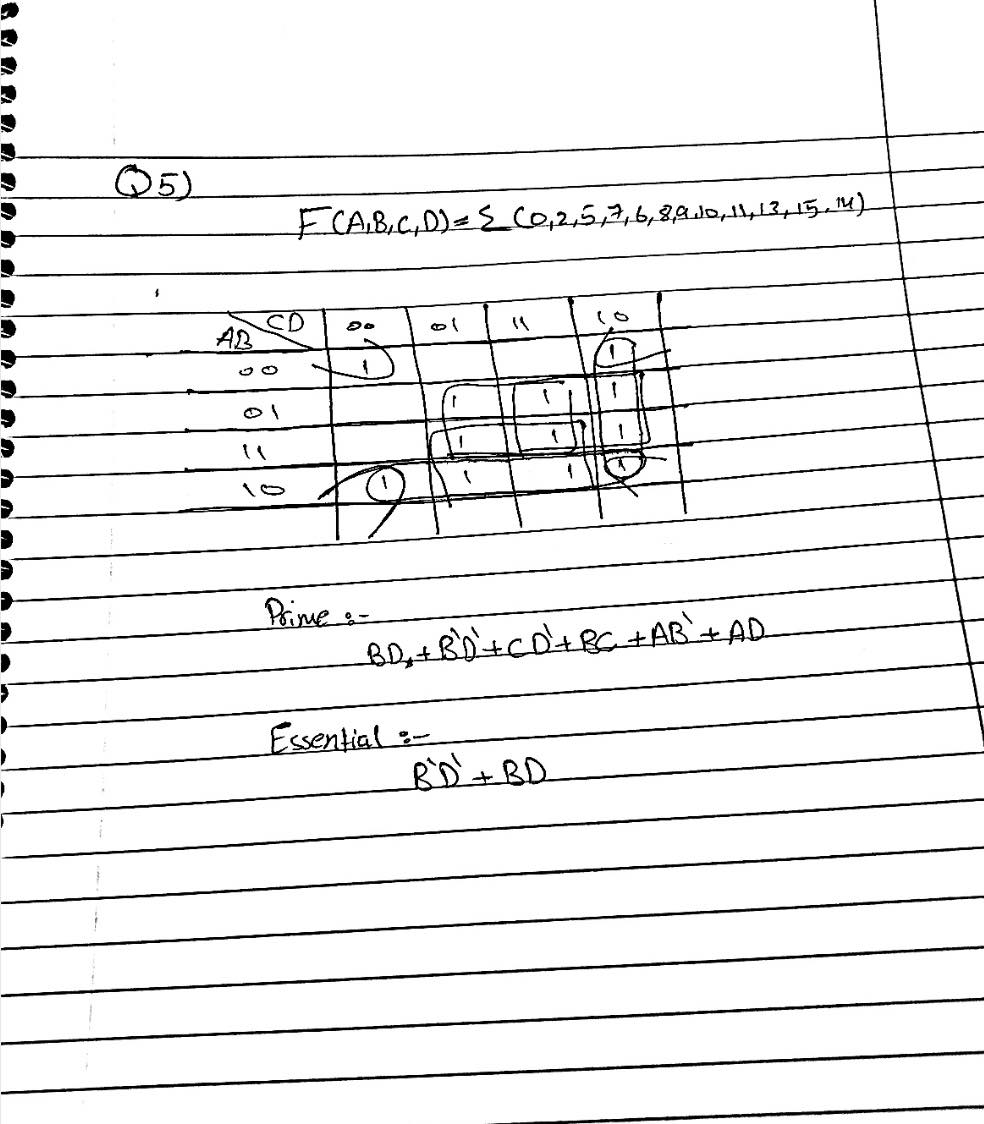
Q 4 )

D -

A notebook with writing on it

Description automatically generated

Q5 )



Q 6)

An Odd Parity Generator is a digital circuit that adds a parity bit to a data stream. This parity bit ensures that the total number of 1’s in the data stream is odd, which helps in detecting single bit errors during data transmission. If the input data word has an odd number of 1’s, a ‘0’ is added as the parity bit, and if it has an even number of 1’s, a ‘1’ is added.

Here’s how it works:

1. If the input data word has an odd number of 1’s , the parity generator adds a ‘0’ as the parity bit.
2. If the input data word has an even number of 1’s , the parity generator adds a ‘1’ as the parity bit.