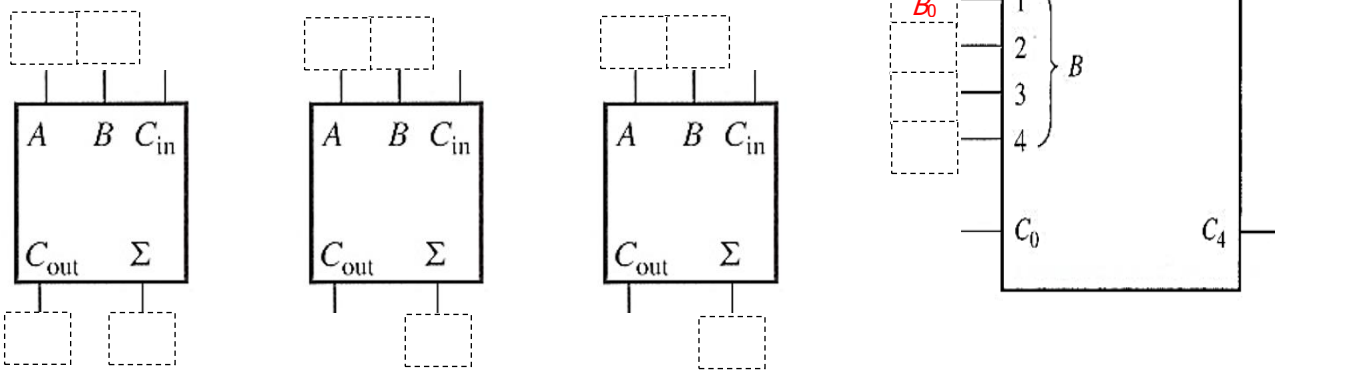
Name:.....Student ID ..... **Sent by 9/1/2025**

1) Fill the EVEN parity bit in the table below.

Data	Even Parity Bit will be:
00100	
01011	
0110101	
1010101	
11010100	
1010110101	

2) Design 7-bit Adder Circuit using a 4-bit adder and 3 Full Adders below. Complete the circuit connection (drawing connecting lines) and fill all the signals A_1-A_6, B_1-B_6 and S_1-S_7 .



$A_6\ A_5\ A_4\ A_3\ A_2\ A_1\ A_0$ +

$B_6\ B_5\ B_4\ B_3\ B_2\ B_1\ B_0$

$S_7\ S_6\ S_5\ S_4\ S_3\ S_2\ S_1\ S_0$

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3) Convert the last 2 digits of your ID to a binary B. Then Design the decoder to indicate this binary B.

4) Plot the pulse diagram for the signal Y = $(AB + C) \cdot B$