COMP262-01 LAB8-1, CH20 Digital Logic and Gates

NOTE: You may choose to use free hand drawing in preparing the requested Diagram and then 'scanning' and pasting into a WORD docx or converting it to a .pdf…

The ANDZ Combinational Circuit
Setting the 'Z' status bit
• Z can be set in one of two ways:
If ANDZ control signal is 0, Z(new value) is set directly from ALU Zout
If ANDZ control signal is 1, Z(new value) is set as the AND of ALU Zout and Z(current value)

The truth Table for the ANDZ circuit:

ANDZ	Z-Current value	ALU Zout	OUTPUT Z-New value
0		0	
0		1	
1	0	0	
1	0	1	
1	1	0	
1	1	1	

To do:

a) complete the thruth table

b) Convert the thruth table into a **Boolean Expression**, expressing the 'OUTPUT(Z-New value)' signal in **SOP(Sum of Products)** form…

c) Draw a Logic Gate Diagram for the circuit implementation **based on the above boolean expression,** and using gates from the functionally complete set AND/OR/NOT…