

# Project 2 Research Updated

Course: ELECENG 2E14:Electronic Devices and Circuits I

Research & Test Plan	Level 4	Level 3	Level 2	Level 1	New Level	Criterion Score
Description of ideal switches	10 points  Mentions at least the following properties of an ideal switch:  1. $R_{on} = 0$ ; OR $V_{switch} = 0$ when ON; OR $V_1 = V_2$ when ON  2. $R_{off} = \infty$ OR $I = 0$ when OFF  3. Range of $V_1$ and $V_2$ unlimited  4. Bidirectional	8 points  Mentions at least 3 of the four properties listed	4 points  Mentions at least 2 of the four properties listed	0 points  No discussion, or discussion does not include any of the properties mentioned under Level 4	0 points	/ 10

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Non-idealities	15 points  Quantifies the non-idealities correctly as follows:  1. Value of R_on measures non-ideality in switch when ON  2. Value of I_off measures non-ideality in switch when OFF  3. V_min < V1, V2 < V_max  4. Same value of R_on for V1 used as input or V2 used as input	12 points  Quantifies at least three of the non-idealities mentioned in Level 4, even if the discussion is not precise; OR quantifies all four non-idealities but not using the correct definitions as specified in Level 4.	8 points  Quantifies at least two of the non-idealities	0 points  No discussion on the quantitative effects of these non-idealities	0 points	/ 15

Total

/ 25

Overall Score

Level 4

16 points minimum

Level 3

12 points minimum

Level 2

6 points minimum

Level 1

0 points minimum