ALTERNATIVE ENERGY
QUIZ

The distance between a PV string and inverter is 30 m. The I_{mp} and V_{mp} of the PV string are 15 A and 240 V, respectively. Assume that both positive and negative cables have the same length and copper cable is used in the system (resistivity, ρ = 0.017857).

i) Determine the minimum cable size if the maximum voltage drop across the cable is 2%. Given that the available cable sizes are 1.5 mm^2, 2.5 mm^2, 4 mm^2 and 6 mm^2. Justify your answer.

ii) Calculate the actual voltage drop across the DC cable in volt.

iii) Calculate the actual DC power loss of the cable in percentage.