Test 3 Questions PV Panels: Types of Panels

1. What is the approximate Voc for a 36 cell PV panel?

Each cell is about 0.6 at no load, and approximately 0.5 volts at Vmp. Therefore Voc = 0.6 x 36 = 21.6 or close to that number.

1. What is a string and why are they used?

To increase power for a load it is better to increase voltage first.

1. A manufacture states the maximum voltage the panel can be subjected to is considered the maximum string voltage. If a panel has a Voc of 21.7V and max string voltage is 600V, how many panels can be connected in a string?

600V divided by 21.7 V/ panel = 27 panels any more put the voltage of the string over 600V.

1. Calculate the efficiency of the following panel. Dimensions 2110mm x 1042mm x 40mm and output of 445 Watts.

2.1986m2 producing 445W from 21986W = 20.2%

1. Calculate the efficiency of the following panel. Dimensions 1700mm x 992mm x 35mm and output of 335 Watts.

1.686m2 producing 335W from 1686W = 19.9%