

### **1. How do solar panel work?**

The working principle of solar cells is based on the photovoltaic effect. The photovoltaic effect is the production of electricity by a material when it is exposed to the light. The common single-junction silicon solar cell can produce a maximum open-circuit voltage of approximately 0.5 – 0.6 V.

### **2. What is the efficiency of solar panel?**

A solar cell is also called photovoltaic that converts the light energy into electricity. The most common semiconductor material named Silicon is used for solar cell. It consists of PN junction. The output voltage of solar cell is 0.6v and efficiency is 15 To 20 percent.

### **3. What is the major disadvantage with solar cells for power generation?**

High initial costs for material and installation and long ROI (however, with the reduction in the cost of solar over the last 10 years, solar is becoming more cost feasible every day) Needs lots of space as efficiency is not 100% yet. No solar power at night so there is a need for a large battery bank.

### **4. How many types of solar cells are there?**

Solar cells can be divided into three broad types, crystalline silicon-based, thin-film solar cells, and a newer development that is a mixture of the other two.

### **5. How long do solar panels last?**

About 25 to 30 years

But the solar panels generating that power don't last forever. The industry standard life span is about 25 to 30 years, and that means that some panels installed at the early end of the current boom aren't long from being retired.

### **6. What are the 3 types of solar panels?**

There are 3 types of solar panels primarily used in the solar industry:

Monocrystalline solar panels.

Polycrystalline solar panels.

Thin film (amorphous) solar panels.

### **7. What is monocrystalline solar?**

A monocrystalline solar panel is a solar panel comprising monocrystalline solar cells. These cells are made from a cylindrical silicon ingot grown from a single crystal of silicon of high purity in the same way as a semiconductor. The cylindrical ingot is sliced into wafers forming cells.

### **8. What's the difference in solar panels?**

The main difference between the two technologies is the type of silicon solar cell they use: monocrystalline solar panels have solar cells made from a single crystal of silicon, while polycrystalline solar panels have solar cells made from many silicon fragments melted together.

### **9. How many solar panels would it take to power a house?**

We estimate that a typical home needs between 20 and 24 solar panels to cover 100 percent of its electricity usage. The actual number you'll need to install depends on factors including geographic location, panel efficiency, panel rated power, and your personal energy consumption habits

### **10. How do calculate how many solar panels need?**

To determine the number of panels you need to achieve a given solar system size, divide it by the wattage of each panel (which averages around 320 watts). For example, if you're aiming for a 4 kW system, you'll divide 4 kW (or 4,000 watts) by 320 watts to get 12.5

11. . A typical output of a solar cell is

- A. 0.1 V
- B. 0.26 V(correct)
- C. 1.1 V
- D. 2 V

12. Which of the following material is used in solar cells?

- A. Barium
- B. Silicon(correct)
- C. Silver
- D. Selenium

13. The efficiency of a solar cell may be in the range

- A. 2 to 5%
- B. 10 to 15%(correct)
- C. 30 to 40%
- D. 70 to 80

14. Satellite power requirement is provided through

- A. Solar cells(correct)
- B. Dry cells
- C. Nickel cadmium cells
- D. Lead acid batteries

15. Active solar is directly consumed in activities such as drying clothes and warming of air.

- A. Passive solar
- B. Simple solar
- C. Active solar(correct)
- D. None of the above

16. In Solar Panel, which is the top cover and is transparent to allows light to enter?

- A. Non-reflective layer
- B. Contact grid
- C. Back plate
- D. Cover glass(correct)

17. The crystalline silicon technology gives \_\_\_\_\_ types of photovoltaic cells.

- A. 1

- B. 2(correct)
- C. 3
- D. 4

18. Poly-crystalline cells also known as malty-crystalline cells.

- A. Yes(correct)
- B. No
- C. Can be yes or no
- D. Can not say

19. What are three relevant bands of solar radiation?

- A. UV, infrared and far infrared
- B. Ultrasonic, infrared and visible
- C. UV, visible and infrared(correct)
- D. UV, ultrasonic

20. Solar technology can be broadly classified into?

- A. 1
- B. 2(correct)
- C. 3
- D. 4

21. What are the two types of solar time?

- A. Fundamental solar and multi-solar time
- B. Apparent and diurnal solar time

C. Apparent solar time and mean solar time(correct)

D. Mean solar time and single-solar time