



## UNIT-1 PRINCIPLES OF SOLAR ENERGY

### FILL IN THE BLANKS

- Solar energy is obtained from the \_\_\_\_\_.  
**Answer:** Sun
- The process of converting sunlight into electricity is called \_\_\_\_\_.  
**Answer:** Photovoltaic effect
- The device used to convert solar energy into electrical energy is called a \_\_\_\_\_ cell.  
**Answer:** Solar
- Solar energy is a \_\_\_\_\_ source of energy.  
**Answer:** Renewable
- The unit used to measure solar radiation is \_\_\_\_\_.  
**Answer:** Watt per square meter ( $\text{W}/\text{m}^2$ )
- The sun emits energy in the form of \_\_\_\_\_ radiation.  
**Answer:** Electromagnetic
- The efficiency of a solar collector depends on the \_\_\_\_\_ area.  
**Answer:** Absorber
- The angle at which sunlight strikes a surface is called the \_\_\_\_\_ angle.  
**Answer:** Incident
- Solar thermal systems use sunlight to produce \_\_\_\_\_.  
**Answer:** Heat
- The device used to store solar energy in thermal form is called a \_\_\_\_\_.  
**Answer:** Thermal storage system

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### Choose the Correct Answer (MCQs)

- Solar energy is derived from:  
A) Wind  
B) Water  
C) Sun  
D) Coal  
**Answer:** C) Sun
- Which effect is responsible for electricity generation in solar cells?  
A) Photoelectric effect  
B) Photovoltaic effect  
C) Thermal effect  
D) Magnetic effect  
**Answer:** B) Photovoltaic effect
- Solar energy is an example of:  
A) Non-renewable energy  
B) Conventional energy  
C) Renewable energy  
D) Nuclear energy  
**Answer:** C) Renewable energy

4. Which material is commonly used in solar cells?  
A) Copper  
B) Aluminum  
C) Silicon  
D) Iron  
**Answer:** C) Silicon
5. The intensity of solar radiation is maximum at:  
A) Morning  
B) Noon  
C) Evening  
D) Night  
**Answer:** B) Noon
6. Solar thermal energy is mainly used for:  
A) Lighting  
B) Heating  
C) Cooling  
D) Communication  
**Answer:** B) Heating
7. The device that converts solar energy into heat is called:  
A) Solar panel  
B) Solar collector  
C) Battery  
D) Turbine  
**Answer:** B) Solar collector
8. The Earth receives energy from the sun through:  
A) Conduction  
B) Convection  
C) Radiation  
D) Reflection  
**Answer:** C) Radiation
9. Solar energy is considered environmentally friendly because it:  
A) Produces waste  
B) Causes pollution  
C) Is clean and sustainable  
D) Is expensive  
**Answer:** C) Is clean and sustainable
10. The angle of tilt of solar panels affects:  
A) Weight  
B) Cost  
C) Efficiency  
D) Color  
**Answer:** C) Efficiency