1. 3

What is produced by a primary battery

Alternating current (AC)

Direct current (DC)

Static electricity

2. 3

What is the role of the electrolyte in an electrochemical cell

To act as an insulator between electrodes

To facilitate a chemical reaction and free electrons

To store electrical energy for later use

3.

3

A primary battery produces electricity using two different metals in a chemical solution like sulfuric acid or alkaline

Electrolyte

4. 4

Which of the following methods is NOT mentioned as a common way to produce electrical energy

Chemical

Wind

Thermal

What type of materials are commonly used for piezoelectric generation

Ceramic and plastic

Crystalline quartz and Rochelle salt

Metal and glass

6. 4

The most common piezoelectric materials used today are crystalline quartz and Rochelle salt

7. 5

What phenomenon occurs when a crystal of quartz is squeezed

It produces a steady DC voltage.

Charges of opposite polarity appear on its surfaces.

It generates heat through friction.

8. 5

What effect describes the conversion of mechanical energy into electrical energy using crystals like quartz

convert mechanical energy into electrical energy

Thermoelectric effect

Piezoelectric effect

Electromagnetic effect

9. 5

When a crystal of quartz is squeezed, charges of opposite polarity will appear on two opposite surfaces of the crystal, and this phenomenon is known as the

Junction effect

10. 6

What principle describes the generation of voltage in thermocouples

Ohm's law

Seebeck effect

Joule heating

11. 6

Which of the following is NOT a use of thermocouples in aviation

two type of thermocouples
CHT
EGT

C

Measuring cylinder head temperatures

Generating surplus electricity

Measuring exhaust gas temperatures

12. 6

Thermocouples generate a voltage between two wires that is proportional to the temperature at the Junction

13. 9

What is the primary function of a solar cell

To store electricity

To convert light energy into electricity

To amplify electrical signals

14. 9

Which material is commonly used in solar cells to absorb photons from sunlight

Copper

Silicon

Aluminum

15. 9

A solar cell, also known as a photovoltaic cell, is a device that converts light energy into

Electricity

16. 10

What occurs when non-conductive materials are rubbed together

Heat generation

Production of static electricity

Chemical reaction

17. 10

What is the result of the transfer of electrons between materials in friction electricity

Decrease in temperature

Imbalance of charges

Generation of magnetic fields

18. 10

The production of electricity by friction involves the build-up of static electricity when non-conductive materials are rubbed together, leading to a transfer of

Electrons

19. 11

What is produced when a conductor is moved through the magnetic lines of flux

Electric resistance

Electromotive force

Thermal energy

20. 11

When connected to a circuit, what type of current is produced by the small alternating voltage generated through the motion of a conductor in a magnetic field

Direct current (DC)

Alternating current (AC)

Pulsating current

21. 11

When a conductor is moved through the magnetic lines of flux created by a magnet or electromagnet, it generates Electromotive force, leading to current flow for electrically operated devices

What happens to a semiconductor atom when a photon strikes it

It loses its ability to conduct electricity.

It raises the energy level of its electrons.

It emits a photon of equal energy.

23. 12

How does the frequency of light affect the energy of the photons

Higher frequency light has less energy.

Frequency of light does not affect photon energy.

Higher frequency light has more energy.

24. 12

When a photon strikes a semiconductor atom, it raises the energy level above what is needed to hold its Electrons in orbit

which it is allow flow of current

25. 13

What is the term for electrical energy produced from mechanical pressure on a dielectric or non-conducting crystal

Electromagnetic induction

Piezoelectricity

Thermoelectric effect

26. 13

What occurs when a conductor is moved through the magnetic lines of flux of a magnet or electromagnet

Heat generation

Induction of voltage

Decrease in resistance

27. 13

Electrical energy produced from mechanical pressure on a dielectric or non-conducting crystal is known as Piezoelectric