1. 3

What type of cells would include both lead acid and nickel cadmium cells

Secondary cells

Secondary cells ✓

Primary cells

Alkaline cells

2. 3

The internal resistance of a battery affects its overall performance and efficiency

3. 4

What is the role of the metal container in a primary cell battery

acts as anode terminal

It acts as the cathode terminal

It acts as the anode terminal

It acts as the electrolyte

4. 4

A battery is designed with a metal electrode or graphite rod acting as the cathode (+) terminal, immersed in an Electrolytic paste

5.

5

Which statement is true about primary cells

They can be recharged multiple times.

They involve an electrochemical reaction that consumes one of the metals.

They are primarily used in high-drain devices.

6. 5

When the battery is in a discharge condition, an electrochemical reaction takes place resulting in one of the metals being consumed, making the charging process not

Reversible

7. 6

Which of the following statements about lead-acid car batteries is true

They consist of three lead-acid cells producing a total of 6 volts.

The positive electrode is lead peroxide, and the negative electrode is lithium.

Each cell produces 2 volts, so the whole battery produces a total of 12 volts.

8. 6

A secondary cell is any kind of electrolytic cell in which the electrochemical reaction that releases energy is

Reversible

9. 7

What is contained within each cell of a lead-acid battery used in aircraft

Positive plates of copper and negative plates of aluminum

Positive plates of lead dioxide and negative plates of spongy lead

Positive plates of sulfuric acid and negative plates of water

10. 7

The lead acid battery is constructed from a series of identical cells, each containing sets of positive and negative plates

11. 8

What is the specific gravity of the electrolyte solution in a typical aircraft battery at 60 °F

1.050

1.270

1.500

12. 8

A typical aircraft battery for starting requires a voltage of 12 or 24 volts

13. 9

What happens to lead dioxide (PbO2) when the secondary cell is discharged

It remains unchanged.

It breaks down into negative oxygen ions and positive lead ions.

It converts directly into water (H2O).

14.

When a secondary cell is discharged, electrons flow from the negative plate and cause lead dioxide (PbO_2) to break down into Oxygen ions

15. 10

What happens to the venting hole of a secondary cell battery during inverted flight

It allows gas to escape freely.

It is covered by the lead weight.

It becomes wider to release more gas.

16. 10

In level flight, the lead weight permits venting of gases through a small hole

What is the purpose of the vent tubes attached to the battery's nipples in an airplane

To supply electricity to the airplane

To neutralize battery gases and expel them safely

To monitor the battery's charge level

The battery is equipped with a vent tube nipple at each end, where one tube serves as the interior

tube exposed to the slipstream

other exhust vent tube and attached to drain sump

What happens to the amp-hour capacity of a battery when multiple batteries are connected in parallel

in series
- ↑ total voltage
- not increase amp-hour

parallel
- ↑ amp-hour

It decreases

It increases

It remains the same

A battery with a capacity of 1 amp-hour should be able to continuously supply a current of 1 amp to a load for exactly 1h hour before becoming completely discharged

What is the term used to define the number of complete charge/ discharge cycles a battery can perform before its normal charge capacity falls below 80% of its initial rated capacity

Battery life expectancy

Battery life cycle

Battery duration

22. 15

Battery life cycle is defined as the number of complete charge/discharge cycles a battery can perform before its normal charge capacity falls below 80%

of its initial rated capacity

Show hint

What instrument is used to measure the specific gravity of the electrolyte in a lead-acid battery

Ammeter

Voltmeter

Hydrometer → to measure specific gravity

24. 16

The state of charge of a battery is indicated by the density of the

electrolyte

What specific gravity reading range indicates a medium state of charge in a Lead-Acid battery

1.3000 - 1.275 high

1.275 - 1.240 medium

1.240 - 1.200 low

1.300 - 1.275 ⟶ high

1.275 - 1.240 ⟶ medium

1.240 - 1.200 ⟶ low

A specific gravity reading of 1.300 indicates a high state of charge

What is the current behavior in the constant voltage method during battery charging

The current remains constant throughout the process.

The current at the start is high but tapers off as charging progresses.

The current increases steadily until the battery is fully charged.

28. 18

Batteries can be charged using either the constant Voltage method or the constant current method

What is the active material in the charged positive plate of nickel-cadmium cells

Active mater: nickle hydrate (Nioh)
(positive plate anode)

negative plate called:
sponge cadmium (Cd)

electrolyte: potassium hydroxide
(KOH)

Cadmium

Nickel hydrate

Potassium hydroxide

30. 19

The electrolyte used in nickel-cadmium cells (Ni-Cad) is a

Potassium hydroxide (KOH)

solution in a concentration of 20-34 percent by weight pure KOH in distilled water