Inverter :

An inverter is a very useful appliance to provide power (or electricity) back-up during power-outage. It ensures a smooth continuity of electricity usage in whatever it is that one is doing, be it working on a computer or watching television or using washing machine etc, without any hindrance

An inverter is basically a device which converts a Direct Current (DC) to Alternating Current (AC). It cannot provide electricity backup on its own. These components are:

1. **Charger**
2. **Battery**
3. **Inverter**

Tips For Efficient Working of Your Inverter :

1. **During a power cut, use only the electronics that you require and disconnect the ones that are not really needed.**
    a. **Reason : This might seem a very simple and easy thing to do but often, we end up using more electronic devices than we need during a power cut. This causes the charge in the battery to deplete much faster resulting in a lesser duration of battery backup. Using just the devices you need will surely provide you with a longer battery backup.**
2. **Replacing your CFL with an LED can be of great help as LEDs are known to consume 75-80% less electricity as compared to CFLs.**
3. **Even if there is no power outage, make sure your batteries are still used by discharging them at least once a month.**
4. **Installing other home appliances such as refrigerators, air conditioners, ceiling fans etc. with a higher BEE Star (Bureau of Energy Efficiency) rating is a great way to save power and money**
    a. **Reason : . The best energy-saving appliances come in the range of 3 to 5 BEE Star rating. The higher the star rating, the more energy efficient the appliance will be. Running such devices on your inverter battery will consume much less power as compared to older appliances. For example, a refrigerator with a 5-star energy rating will consume less power from your inverter as compared to a refrigerator with a 3 or 4-star rating.**

5. One needs to top-up the inverter battery with distilled water only. Normal tap water and RO water should not be used for top-up as they contain dirt and other impurities that can shorten the battery life.

6. If a battery is damaged, replace it. Do not combine old and new batteries together in a system.
7. Allowing the power in the battery to drain completely frequently before recharging it damages the inverter battery's cells. This reduces its lifespan.
8. It is recommended to check the water level every 60 days
9. Always make sure that the inverter battery is placed in an open or airy place which will provide natural cooling air circulation to counter the inverter battery heating problem. Do not use, store or leave the inverter battery in hot places (e.g. by the fire, near a heater or in direct sunlight
10. It is recommended to place the inverter battery in a safe place away from flammable and volatile objects which could set the inverter battery on fire and cause a disaster.
11. It is also very important to check on the terminals of the battery from time to time and prevent any corrosion or rust from forming. Corrosion and rust affect the steady flow of the current which has a direct effect on battery efficiency and even reduces the overall lifespan of your battery.

Maintenance tips for proper working of the inverter :

To conduct a maintenance check on the inverter battery for home, it needs to be fully charged. For the same, it is necessary to ensure that the battery has been charged for 10-15 hours with a suitable inverter or an external charger before undertaking a battery health check regime. Before examining battery health, the inverter is removed from the front panel and needs detachment from the wall socket too.

1. Check the Acid Level
    a. To check the acid level, look at the float indicators. The acid level should be equal in all the cells for proper working of the inverter battery. Open the float indicator & top up the inverter battery with DM water upto the specified limit, if necessary. Ensure batteries are not overfilled. Filling up the battery beyond the specified limit may become dangerous for operation. Open the vent plugs/float indications and test the acid colour. The acid should be colourless if the health of the inverter battery

is good. Brown or black coloured acid suggests that the battery is contaminated or at the end of life.

2. Clean the Battery Terminal Area:
    a. Inverter battery produces lead sulphate, which gets deposited at the interconnection region of the battery & inverter (battery terminal) during normal operation. Lead sulphate increases the electrical resistance of the current-conducting path and deters current flow from the inverter to the converter. Clean the battery with warm water and a nylon brush if there is any lead sulphate accumulation.
3. Keep the Battery Surface Spotless:
    a. To ascertain the proper functioning of a battery, you should check for any deposition of dirt on its surface. If you find dirt, try to clean it with a dry cloth. This way, you will be able to keep the battery clean
4. Damaged Wire Affects Performance:
    a. Check the condition of the input power line to the inverter as it can hamper the functioning of the inverter system if the mainline power cord is loosely plugged in or if there is no power in the wall socket. Too high or too low input voltage can affect the performance of the battery.


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