**PRACTICAL-NO:5**

**AIM**: Using practical examples, describe green computing. List and explain the steps that you take to contribute to green computing.

What Does Green Computing Mean?

Green computing is the environmentally responsible and eco-friendly use of computers and their resources. In broader terms, it is also defined as the study of designing, engineering, manufacturing, using and disposing of computing devices in a way that reduces their environmental impact. Many IT manufacturers and vendors are continuously investing in designing energy-efficient computing devices, reducing the use of dangerous materials and encouraging the recyclability of digital devices. Green computing practices came into prominence in 1992, when the Environmental Protection Agency (EPA) launched the Energy Star program. Green computing is also known as green information technology (green IT).

**EXAMPLE OF GREEN COMPUTING**:

* Renewable Energy Sources
* Renewable energy sources don’t use fossil fuel.

They are available freely, are environmentally friendly and generate less pollution. Apple, who is building a new corporate center, is planning to use most of the building’s wind turbine technology, and Google has already built a wind-powered data center.

**STEPS TO CONTRIBUTE TO GREEN COMPUTING**:

* **Remote work.** The COVID-19 pandemic has spurred [workplace](https://www.techtarget.com/searchhrsoftware/feature/Hybrid-workplace-technologies-to-power-future-of-work) environments, including ones that have led to reduced energy consumption. It has decreased the number of people commuting to and from work. It has also cut the number of employees present in an organization's facilities, reducing demand for power, water and other resources.
* **Smart technology.** Organizations can use internet of things sensors and artificial intelligence (AI) monitoring tools to collect and analyze information about the data center and create a power usage model. AI-powered tools can also autonomously manage heating, cooling and power in the data center.
* **Upgrade and rearrange the data center.** Older equipment often uses more energy and puts out more heat than newer devices. Hot and Cold Aisle Setups can be used to group assets based on energy consumption and temperature, optimizing heating, ventilation and air conditioning (HVAC) efficiency.
* **Power down.** CPUs and peripherals can be powered down and turned off during extended periods of inactivity. Power up energy-intensive peripherals, such as laser printers, only when needed.
* **Strategic scheduling.** Do computer-related tasks in dedicated blocks of time, leaving hardware off at other times.
* **Display selection.** Liquid Crystal Display monitors use less energy and give off less heat than cathode-ray-tube monitors.
* **Computer selection.** Laptops use significantly less energy than desktop computers.
* **Power management.** These features can be set to automatically power down hard drives and displays after several minutes of inactivity.
* **Temperature check.** Newer IT devices can safely run at higher temperatures than older ones, so the data center may not need to be as cool as in the past.
* **E-waste.** Dispose of e-waste according to federal, state and local regulations.
* **Alternative energy.** Investigate alternative energy sources, such as geothermal-cooling and wind and hydroelectric power.