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Practical – 5

Green Computing

Q1.What is green computing?

Ans) Green computing, also known as green technology, is the use of computers and other computing devices and equipment in energy-efficient and eco-friendly ways. Organizations that use green computing methods often deploy energy-efficient central processing units (CPUs), servers, peripherals and power systems. They also focus on reducing resource use and properly disposing of physical and electronic waste (e-waste).

One of the early green computing initiatives in the United States was the Energy Star labeling program. This voluntary program was developed by the Environmental Protection Agency in 1992 and implemented by manufacturers to promote energy efficiency in computing hardware and other types of appliances. The Energy Star label is common, especially for laptop computers and displays. European and Asian countries have implemented similar programs.

Q2. Some example of green computing .

Ans) 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.

Q3.Steps to contribute towards green computing.

Ans) 1. Proclamation of the Green Intentions:

It is always best to begin Green IT initiatives by communicating intentions to adopt an environment-friendly IT infrastructure. The push for energy efficiency should be cascaded down to every staff, setting the stage for collaboration between various departments. Once they learn about the initiatives, they will know that everyone needs to be involved.

2. Appointment of a Working Group for Green IT Compliance Assurance:

Once the ball is set to roll, you need to have a committee that will monitor and ensure that the company's plans are adhered to by all members of the organization. One of the most

important tasks that the appointed Green IT Committee must focus on is the acquisition of energy efficient IT infrastructure. This team should make sure that the IT groundwork meets all the criteria that are set for the protection of the environment

3.Measurement of Current Carbon Footprints Produced by IT Components:

Where the company stands in terms of carbon footprint brought about by information technology services, is an important information to be known. Quickly establish a carbon footprint reference point. Check on the power usage in the IT center and compare it with existing power efficiency standards and metrics for industry.

4.Planning More Centralized IT Operations:

It is relatively easy for an organization to centralize its information technology (IT) system. With server virtualization, carbon footprints can be significantly reduced.

5.Usage of More Efficient Computer Applications:

By using more powerful computer applications, your IT systems can better deal with inefficiencies. Besides, faster software spares the servers from regularly operating at maximum capacity, thereby consuming lesser power. If one can only increase the speed of the computer applications that is used, one can have a corresponding positive effect on the energy use and carbon emissions.

6.Usage of More Efficient Cooling Systems:

To reduce your CRAC (Computer Room Air Conditioning) power consumption for green computing, invest in supplemental cooling systems that are placed in between the rows of servers in data center. Thus, they can minimize the number of times in a day that the bigger CRAC units are required to work on full power. Apply new Data-Centre design technology that minimizes hot-zones.

7.Careful Weightage of Life-cycle of IT Devices and Accessories:

Consider the projected life-cycle of existing IT hardware. Can it be recycled? Will it decay in time? If not, then disposing of existing hardware can far outweigh the environmental benefits that you intend to achieve by buying newer more power-efficient computer hardware.

8.Business Performance Enhancement through Green IT Policies:

Make sure that the drive for a green IT fits in your overall business operation. Better yet, ensure that environment-friendly IT and the business goals complement each other. By doing so, you will be able to achieve both green policies and bottom line goals.

9.Work with Everyone Involved in IT Process Life-cycle:

Now that you have taken the steps to ensure that company uses green IT, you need to get everyone involved in the initiative. The human resources department can support

initiatives by regularly posting announcements and notices that touch on the subject of environment-friendly computing.

10.Result Monitoring and Continuous IT Optimization:

Lastly, you should always check the results of green IT initiatives. Compare this data with the benchmarks and metrics that is set for the company. A good example is checking total power consumption for each month. If it has significantly dropped, then one can say that we have effectively reduced your organization's carbon footprint.