GCI Official Curriculum

Understanding & Utilizing Green Computing Technologies

Course Code: UUGCT ○ Exam Code: CGCUS03

CERTIFIED GREEN COMPUTING USER SPECIALIST

GCI Courses

Course UUGCT - Understanding & Utilizing Green Computing Technologies

Course SDOGCT - Strategizing, Designing & Optimizing Green Computing Technologies

Course IMOGCT - Implementing, Maintaining & Optimizing Green Computing Technologies

GCI Certification Programs

www.greenci.org

Cost Savings

- Scenario: A typical desktop computer that is left idle with display switched off for 12 hours and utilized for the other 12 hours.
- Power consumed while idling – 85 Watts
- Power consumed while in use – 300 Watts
- Total power consumed in a year – 1686 kWh
- Electricity tariff per kWh – 40 cents
- Total energy bill a year - $674.40

Impact on Environment

- Coal needed to produce 1 kWh – 0.37KG
- Generating 1 kWh of electricity produces 0.9kg CO_2
- Burning 404KG of coal releases 1 MT of CO_2
- Coal needed to produce 1686 kWh – 624KG
- Burning 624KG of coal releases 1.5 MT of CO_2
- Along with:
  - Sulfur Dioxide
  - Nitrogen Oxide

Green Computing Terminology

- **Carbon Footprint**

  A carbon footprint is the measure of the environmental impact of a particular individual or organization's lifestyle or operation, measured in units of carbon dioxide.

Carbon Footprint Essentials

- The term Carbon Footprint refers to the quantity of CO_2 we emit individually in any one-year period.
- It relates to the amount of greenhouse gases produced in our day-to-day lives through burning fossil fuels for electricity, heating and transportation.
- The units of measurement of a carbon footprint is tons.

Units of Measurement

- Electrical power is measured in watts, kilowatt and megawatt.
- IT related energy measurements:
  - Watt-hour(Wh)
  - Kilowatt-hour(kWh)
  - Joule(J)
  - BTU(British Thermal Unit)
  - Ton

Kilowatt-hour(kWh)

- Your electricity bill is calculated using the amount of kWh you utilize.
- 1 kWh = 1000 Wh