| Branch: B.Sc.(IT) | Semester-V |
|---|---|
| Subject Code: 5104 | Lecture: 02<br>Credit: 02 |
| Course Opted | Skill Enhancement Course - 3 |
| Subject Title | GREEN COMPUTING |

**Course Objectives:**
- At the end of the course, the students will be able to
- Understand concept of Green IT.
- Necessity of Go Green
- Comprehend Green IT from the perspective of hardware, software, storage, and networking

**Course Outcomes:**
At the end of the course, the students will be able to
- Create awareness among stakeholders and promote green initiatives in their environments leading to a green movement.
- Acquire knowledge about energy efficiency, IT assets disposal, carbon footprint
- Contribute to eco-friendly environment.

| Modules | Sr. No. | Topics & Details | No. Of Lectures Assigned | Marks Weightage % |
|---|---|---|---|---|
| UNIT- I | 1 | **Introduction:**<br>What is green computing? advantages of Green computing, where it is used?<br>**Present Problems**: Toxins, Power Consumption, Equipment Disposal, Company's Carbon Footprint: Measuring, Details, reasons to bother, Plan for the Future, Cost Savings: Hardware, Power. | 5 | 10 |
| UNIT -II | 2 | **Power Conservation:** Power Problems, Monitoring Power Usage, Servers, Low-Cost Options, Reducing Power Use, Data De-Duplication, Virtualization, Management, Bigger Drives, Involving the Utility Company, Low Power Computers, PCs, Linux, Components, Servers, Computer Settings, Storage, Monitors, Power Supplies, Wireless Devices, Software. | 5 | 10 |
|  | 3 | **Green Computing and the Environment:**<br>Key Concepts, Environmental Drivers for Green Computing, Key Roots of Environmentalism, Environmentalism and IT,<br>The New Imperative of Climate Change,<br>A Brief History of the Climate,<br>Climate Change and IT,<br>What's Next with Climate Change?<br>What It Means to "Go Green" | 5 | 10 |

| | | | | |
|---|---|---|---|---|
| | | Why IT Is a Climate Change Solution? | | |
| UNIT-III | 4 | **Going Paperless:** User behavior- Preferring to go manual instead of automation, Paper Problems, The Environment, Costs: Paper and Office, Practicality, Storage, Destruction, Going Paperless, Organizational Realities, Changing Over, Paperless Billing, Handheld Computers vs. the Clipboard, Unified Communications, Intranets, What to Include, Building an Intranet, Microsoft Office SharePoint Server 2007, Electronic Data Interchange (EDI), Nuts and Bolts, Value Added Networks, Advantages, Obstacles. | 5 | 10 |
| UNIT-IV | 5 | **Recycling:** Problems, , Means of Disposal, Recycling, , Hard Drive Recycling, Consequences, cleaning a Hard Drive, Pros and cons of each method, CDs and DVDs, good and bad about CD and DVDs disposal | 5 | 10 |
| | | **TOTAL** | **25** | **50** |

**Text Book:**
1. 'Green IT', Toby Velte, Anthony Velte, Robert Elsenpeter, McGraw Hill,2008

**Reference Books:**

1. 'Green Data Center: Steps for the Journey',Alvin Galea, Michael Schaefer, Mike Ebbers,Shroff Publishers and Distributers,2011
2. 'Green Computing Tools and Techniques for Saving Energy, Money and Resources', Bud E. Smith, CRC Press,2014

**Web References:**

1. http://www.carbonfootprint. com
2. https://www.energystar.gov/