

Third Year B.C.A. (Under Science) Semester VI

Course Code: BCA607

Course Title: Introduction to Green Computing

**Total Contact Hours: 24 hrs.
(30lectures)**

Total Credits: 02

Total Marks: 50

Teaching Scheme: Theory- 05 Lect./ Week

Course Objectives:

1. Building more energy-efficient computing systems as well as building computing technology that increases energy-efficiency of other physical systems.
2. Investigate recent advances in the broad realm of green technologies to save energy and reduce the carbon footprint of modern computing and engineered systems.
3. A holistic coverage is given ranging from single device issues to algorithms for reducing power consumption of data centers, transportation systems, and smart buildings.

Unit No.	Contents	No. of Lectures
Unit 1	1. Introduction to Green Computing Websites & statistics How bad the energy crisis really is?	04
Unit 2	2. Reducing the IT footprint What really contributes to the footprint (from machine manufacturing to disposal)? Saving energy on a single machine Saving energy in networking and other components Saving energy in clusters and data centers Saving energy on data center cooling	10
Unit 3	3. Computing technology for energy efficiency of other physical systems Computing technology for greener transportation Computing technology for smarter buildings Carbon footprint calculators: what is my footprint?	10
Unit 4	4. Major green initiatives Sustainable IT, Green Business, Smarter Plant.	06

Reference Books:

1. Green Computing: Tools and Techniques for Saving Energy, Money, and Resources 1st Edition by Bud E. Smith (CRC Press)
2. The Green Computing Book by Wu-Chun Feng (CRC Press)
Green it for sustainable business practice: An ISEB Foundation Guide by Mark G. O'Neill.