

SYLLABUS

of the

Value added Course

**Green Computing
(BCAVAC 001)**

(w.e.f. 2022-2023)



Offered by:

**THE DEPARTMENT OF COMPUTER APPLICATION
(BCA)**

Panskura Banamali College

(AUTONOMOUS)

**Panskura R.S., Purba Medinipur
West Bengal – 721152**

COURSE INFORMATION IN BRIEF

Course Name:	Green Computing
Course Type:	Value added Course (Optional, additional, and not a part of the CBCS curriculum)
Medium:	Bengali, English
Mode:	Offline
Intake:	Minimum 20; Maximum 40
Eligibility:	+XII, Any interested candidate in Internet and Web page
Duration:	30 hours (to complete within a time span of 2 months)
Course Fees:	Rs. 300
Coordinator:	Sk.Md. Habibullah, Assistant Professor
Contact:	Department of Computer Application (BCA), Panskura Banamali College (Autonomous) habib.hwh@gmail.com 9609287587 (WhatsApp only)

Structure & Contents

Green Computing

Credit : NA Duration :30 Hours

Course Objective

To develop Green IT Professionals who can assess, and develop strategies to reduce the carbon footprint and materials use of the ICT operations of an organization.

About Course :

The course covers all the essential elements of technology and the latest domain and fundamentals of sustainability for the ICT industry. Only Green IT Professionals are able to sustain and maintain a reduction in energy consumption and in developing techniques to reduce the greenhouse gases emissions attributed to the ICT usage. This course is designed to impart knowledge about sustainability for ICT.

[N.B.: 1 Lecture (L) = 1 Hour]

Course Content :

Unit 1: Green IT: An Overview

6L

Environmental Concerns and Sustainable Development, Environmental Impacts of IT, Holistic Approach to Greening IT, Greening IT- Green PCs, Notebooks and Servers, Green Data Centres, Green Cloud Computing, Green Data Storage, Green Software, Green Networking and Communications

Unit 2: Green Devices and Hardware

6L

Life Cycle of a Device or Hardware: Design, Manufacturing, Packaging and Transportation, Use, Reuse, Recycle and Dispose .

Green Data Storage -Green Drives Solid-State Drives (SSDs), RAID, MAID **Low Cost PC's**

Unit 3: Green Cloud Computing and Environmental Sustainability

6L

Introduction, what is Cloud Computing, Components of Cloud Computing, Cloud Computing Deployment Models, Features of Clouds Enabling Green Computing, Green Cloud Architecture, Case Study: IaaS Provider.

Unit 4: Go Green Initiatives in India:

6L

GIM (Green India Mission), Environmental (Protection) Act, Convention on Biological Diversity (CBD) treaty, Inching towards Renewable Energy

Indian Inc's green initiatives to lower costs in the long run: - reduced water consumption, reduced hazardous waste generation, dropped energy consumption.

Regulating Green IT: Laws, Standards and Protocols:

RoHS, WEEE. BAN, LEED, EPEAT

Unit 5: Case Study: e.g.

6L

- Green Building
- Green Data Center Design
- Going Green at Airports
- Go Green Indian Railways