

## Report on value-added courses "Green Computing", Department of Computer Application

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Wed, Jan 3, 2024 at 10:16 AM



## **Brief Report on Value Added Course on**

## **Green Computing**



Dear All,

Recognizing the vital role of value-added courses is crucial, as they serve to bridge the gap between students' learning needs and broader developmental requirements. The university consistently provides value-added courses (VAC) to enrich the educational experience, ensuring students are well-prepared to tackle global challenges and nurture their unique interests and abilities. These courses tap into the talents of emerging professionals, fostering innovation and enabling them to navigate a dynamic environment, becoming more well-rounded individuals. VACs offer a comprehensive perspective on contemporary environmental and industrial challenges, enhancing students' understanding. Moreover, these programs facilitate the acquisition of innovation and creativity skills through diverse courses. In essence, value-added courses are pivotal in shaping students into academically proficient individuals, preparing them to excel professionally and personally in the complexities of the real world

The VAC "Green Computing" for Sustainable Development and E-Waste Management aimed to educate participants on the environmental impact of computing and the importance of sustainable practices. Covering topics like e-waste management and energy-efficient computing, the course delved into the use of green computing for sustainable development. It comprised modules focusing on specific subjects, from introducing green computing concepts to discussing e-waste management and energy-efficient technologies. Utilizing diverse teaching methods, such as video lectures, interactive quizzes, and discussion forums, the course engaged participants effectively. Additional resources like readings and case studies supplemented the content. Assessments, including multiple-choice quizzes, short answer questions, and a final project, gauged participants' comprehension. The final project challenged participants to apply learned concepts to a real-world problem related to green computing and e-waste management.

Recognizing the significance of value-added courses, the Department of Computer Application at Integral University, Lucknow, took the initiative to organize an Online Value Added Course on 'Green Computing.' This endeavor aimed to align with the objectives outlined in sustainable development goals, specifically addressing the goals of quality education and green climate action. The course spanned 15 days, commencing from November 16, 2023, to December 18, 2023. It was thoughtfully designed to cater to both undergraduate and postgraduate students across all departments within the university. A total of 154 students registered and enrolled through ILI, demonstrating a keen interest in the subject matter.

The successful execution of the course was made possible through the collaborative efforts of the university's administration and dedicated faculty members. The course adopted a hybrid mode of delivery, featuring daily sessions covering lectures, quizzes, and assignments throughout the week. Additionally, designated days were reserved for practical quizzes to enhance the learning experience. The collective commitment of the organizing team ensured the seamless completion of tasks and the overall success of the course.

The engaging session took place on Google Meet for lectures and the ILI-LMS

platform for guiz tests, assignments, and learning materials. Participants actively

participated, demonstrating dedication and hard work to complete their assigned

tasks within the given timeframe. The course equipped them with fundamental

knowledge about green computing and emphasized its significance in the current

era.

Every faculty member presented impactful lectures in accordance with the

structured syllabus for the Value-Added Courses. Each faculty member covered

the specified number of modules outlined in the syllabus during their lectures.

Participants who successfully completed the course received e-certificates, which

were exclusively uploaded on the Learning Management System (LMS). The

criteria for awarding certificates were based on performance in quiz tests,

feedback for each unit, attendance, general feedback, and meeting the 50%

qualifying threshold for the course

.Noteworthy Features of the Value-Added Course (VAC):

• Eligibility extended to students from diverse courses.

Course registration was free for all participants.

The course is structured into 9 modules.

150 students successfully completed the course, receiving e-certificates.

· Sessions utilized both audio and visual modes through PowerPoint

presentations (PPT).

Course Coordinator(s): Dr. Asif Khan

Student Coordinators: Shikha Rai and Mohammad Faiz





VALUE-ADDED COURSE (HYBRID MODE) ON

### **GREEN COMPUTING**

VAC (CAV-23-03)
16 NOVEMBER 2023
To
18 DECEMBER, 2023

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## ABOUT THE COURSE

ABOUT THE COURSE
The proposed Value-Added Course titled "Green Computing" for Sustainable Development and E-Waste Management aimed to educate participants on the environmental impact of competing and the importance of sustainable practices in the industry. The course convered topics such as "overste management," energy—efficient computing, and the use of green computing for sustainable development. The course was divided into nine modules, each focusing on a specific topic. The first module introduced the concept of green computing and the impact of employees and the role they played in reducing the environmental impact of computing. The fourth module forested on the use of gene computing of an extensible development, including the use of computing in agriculture, education, and bealthcare. The final module provided an overview of the then-current state of green computing and the future development, including video lectures, interactive pairway of the future development, including video lectures, interactive pairway of the future development, including video lectures, interactive pairway of the future development, including video lectures, interactive pairway of the future development, including video lectures, interactive pairway of the content and the course of the industry. The course employed a variety of traceling methods to engage participants, including video lectures, interactive pairway of the content. The course included and project and interactive to the industry. The course employed and interactive of the interactive pairway of the industry of the content. The course of the industry of the course of the industry of the content. The course of the industry of the course of the industry. The course of the industry of the course of the industry

### COURSE OBJECTIVES

- Litroduction to Green Computing, Definition, principles and benefits of green computing, energy-efficient computing technologies, and environmental impact of IT.

  2. E-Waste Management Definition and types of e-waste, e-waste regulations and laws, e-waste disposal methods and Starket Management, Definition and types of e-waste, e-waste regulations and laws, e-waste disposal methods and Search Starket Management, and cooling technologies.

  3. Energy-Efficient Data Centers: Data center design and operations, virtualization and cloud computing, power management, and cooling technologies.

  4. Green Newtoning Energy-efficient networking technologies, energy-efficient proteocols and standards, and sustainable practices for network operations.

  5. Sustainable IT Procurement: Life-cycle assessment and analysis, IT equipment procurement and disposal policies, and green certification schemes.

  5. Carbon Foregrant and Energy Admitting Methods for measuring and reducing the earbon footprint of IT systems and under the conscious and environmental impacts of green computing.

  5. Social and Efficial Implications of Green Computing. Social, economic and environmental impacts of green computing, and ethical conscientations in green computing.

  5. Green Computing Best Practices: Best practices for green computing in the enterprise, green computing software, and sea studies of successful green computing projects.

  9. Green IT Standards and Certifications: Green IT standards and certifications, such as Energy Star, EPLAT, and LEED.

### LEARNING OUTCOMES

Ele Me Enrolling in a Value-Added Course on Green Computing offers significant value-added learning outcomes. These courses not only impart a strong foundation in sustainable and energy-efficient computing practices but also enhance one's knowledge of enrivonmental impact assessment in the tech industry. Participants gain insights into reducing carbon footprints, promoting resource efficiency, and understanding eco-friendly data enter transactions. Moreover, they acquire skills in evaluating and implementing green IT solutions, which are increasingly in demand in the job market. Ultimately, this VAC on Green Computing equips learners with a competitive edge, enabling them on make informed, eco-councious decisions in the rapidly evolving field of information technology while contributing to a more sustainable future.

Module. No.	Topic	Content		
01	Introduction to Green Computing	Definition, principles and benefits of green computing     Energy-efficient computing technologies     Environmental impact of IT		
02	E- Waste Management(Case Stud)	Definition and types of e-waste - e-waste regulations and laws - e-waste disposal methods and challenges, Best practices for e-waste management.		
03	Energy-Efficient Data Centers	Data center design and operations     Virtualization and cloud computing     Power management and cooling technologies.		
04	Green Networking	Energy-efficient networking technologies     Energy-efficient protocols and standards     Sustainable practices for network operations.		
05	Sustainable IT Procurement	Life-cycle assessment and analysis     IT equipment procurement     Disposal policies     Green certification schemes.		

06	Carbon Footprint and Energy Auditing(Case Study)	<ul> <li>Methods for measuring and reducing the carbon footprint of IT systems and infrastructure</li> <li>Energy auditing of IT systems and data centers.</li> </ul>
07	Social and Ethical Implications of Green Computing:	<ul> <li>Social, economic and environmental impacts of green computing. Ethical considerations in green computing.</li> </ul>
08	Green Computing Best Practices: (Case Study)	Best practices for green computing in the enterprise     Green computing tools and software     Case studies of successful green computing projects.
09	Green IT Standards and Certifications:	Green IT Standards and Certifications

## CONVENER Dr. Mohammad Faisal, Head, CA, Integral University

### COURSE COORDINATOR Dr. Asif Khan, CA, Integral University

## COURSE INSTRUCTORS

Dr Asif Khan, CA, Integral University Mr. Kamran Ahmad, CA, Integral University Dr. Bably Dolly, CA, Integral University Dr Ahmad Neyaz Khan, CA, Integral University Shameem Ahmad Ansari, CA, Integral University

## STUDENT COORDINATORS

Mohammad Faiz Shikha Rai

	COURSE S	CHEDULE	
Date (Duration)	16-11-2023, 11:30 AM-01:00 PM (01:30 hrs.)	17-11-2023, 11:30 AM-12:30 PM (01:00 hrs.)	18-11-2023, 11:30AM-01:00PM (01:30 hrs.)
Session	Module-01	Quiz-01	Assignment-01
Date (Duration)	20-11-2023, 11:30 AM-01:00 PM (01:30 hrs.)	21-11-2023, 11:30 AM-12:30PM (01:00 hrs.)	22-11-2023, 11:30 AM-01:00 PM (01:30 hrs.)
Session	Module-02	Quiz-02	Assignment-02
Date (Duration)	23-11-2023, 11:30 AM-01:00 PM (01:30 hrs.)	24-11-2023, 11:30 AM-12:30 PM (01:00 hrs.)	25-11-2023, 11:30 AM-01:00 PM (01:30 hrs.)
Session	Module-03	Quiz-03	Assignment-03
Date (Duration)	28-11-2023, 11:30 AM-01:00 PM (01:30 hrs.)	29-11-2023, 11:30 AM-12:30 PM (01:00 hrs.)	30-11-2023, 11:30 AM-01:00 PM (01:30 hrs.)
Session	Module-04	Quiz-04	Assignment-04
Date (Duration)	01-12-2023, 11:30 AM-01:00 PM (01:30 hrs.)	02-12-2023, 11:30 AM-12:30 PM (01:00 hrs.)	04-12-2023, 11:30AM-01:00PM (01:30 hrs.)
Session	Module-05	Quiz-05	Assignment-05

	COURS	SE SCHEDULE	
Date (Duration)	05-12-2023, 11:30 AM-01:00 PM (01:30 hrs.)	06-12-2023, 11:30 AM-12:30PM (01:00 hrs.)	07-12-2023, 11:30 AM-01:00 PM (01:30 hrs.)
Session	Module-06	Quiz-06	Assignment-06
Date (Duration)	08-12-2023, 11:30 AM-01:00 PM (01:30 hrs.)	09-12-2023, 11:30 AM-12:30 PM (01:00 hrs.)	11-12-2023, 11:30 AM-01:00 PN (01:30 hrs.)
Session	Module-07	Quiz-07	Assignment-07
Date (Duration)	12-12-2023, 11:30 AM-01:00 PM (01:30 hrs.)	13-12-2023, 11:30 AM-12:30 PM (01:00 hrs.)	14-12-2023, 11:30 AM-01:00 PN (01:30 hrs.)
Session	Module-08	Quiz-08	Assignment-08
Date (Duration)	15-12-2023, 11:30 AM-01:00 PM (01:30 hrs.)	16-12-2023, 11:30 AM-12:30 PM (01:00 hrs.)	18-12-2023, 11:30 AM-01:00 PN (01:30 hrs.)
Session	Module-09	Quiz-09	Assignment-09

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## Module's Live Session









## CERTIFICATE OF COMPLETION

This is to certify that XXXXX (ID number XXXXXX)

has successfully completed the Value Added Course (CAV-23-03)

## **Green Computing**

organized by
Department of Computer Application
in the duration 16-11-2023 to 18-12-2023

Issue date:26-12-2023

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Dr. Mohammad Faisal Convener

Head, Department of Computer Application
Integral University, Lucknow



Dr. Asif Khan Coordinator

Assistant Professor, Department of Computer Application

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