AC –
Item No. –

As Per NEP 2020

Tolani College of Commerce (Autonomous)

Title of the Course: <u>Green Computing</u>

Programme: B.Sc(Information Technology) Semester I

Syllabus for 2 credit Course

From the academic year- 2024-2025

Name of the Course: Green Computing

Sr. No.	Heading	Particulars
1	**Description of the course :**	Green computing, or sustainable computing, is the practice of maximizing energy efficiency and minimizing environmental impact in the ways computer chips, systems and software are designed and used.
2	**Vertical :**	Skill Enhancement Course
3	**Type :**	Theory and Project
4	**Credit**:	2 credits (1 Credit = Theory and 1 Credit = Project Work)
5	**Hours Allotted :**	30 Hours
6	**Marks Allotted**:	50 Marks Continuous Evaluation: 20 Marks Semester-End: 30 Marks
7	**Course Objectives**: **1.** To decrease the use of dangerous chemicals, maximize energy efficiency throughout the product's lifecycle. **2.** To maximize recyclability or biodegradability of obsolete manufacturing and production garbage.	
8	**Course Outcomes**: **1.** Learn about green assets, modelling and information systems **2.** Obtain the fundamentals of green computing and its IT strategies	

9	**Module 1: Overview Issues and Initiatives, Minimizing Power Usage (15 Hours)**
	• Problems: Toxins, Power Consumption, Equipment Disposal, Company's Carbon Footprint: Measuring, Details, reasons to bother, Plan for the Future, Cost Savings: Hardware, Power. • Global Initiatives: United Nations, Basel Action Network, Basel Convention, WEEE Directive, RoHS, National Adoption, Asia: Japan, China, Korea. • 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.
	Module 2: Recycling, Going Paperless, Staying Green (15 Hours) • Problems, China, Africa, Materials, Means of Disposal, Recycling, Refurbishing, Make the Decision, Life Cycle, from beginning to end, Life, Cost, Green Design, Recycling Companies, Finding the Best One, Checklist, Certifications, Hard Drive Recycling, cleaning a Hard Drive. • Paper Problems, The Environment, Costs: Paper and Office, Practicality, Storage, Destruction, Going Paperless, Paperless Billing, Handheld Computers vs. the Clipboard, Unified Communications, Intranets, Building an Intranet, Microsoft Office SharePoint Server 2007, Electronic Data Interchange (EDI). • Organizational Check-ups, Chief Green Officer, Evolution, Sell the CEO, SMART Goals, Equipment Check-ups, Gather Data, Tracking the data, Baseline Data, Benchmarking, Analyse Data, Helpful Organizations.

10	**Reference Books:** • **Author :Raj Kumar Patra, Title:** Green Computing and Its Applications, **Publisher:** Nova Science**,** 5th Edition, **Year:** 2021 • https://e-next.in/bsc-it/sem2/green-computing/	
11	**Internal Continuous Assessment: 20%**	**Semester End Examination : 30%**
12	**Continuous Evaluation through:**	Project
13	**Format of Question Paper:**	

Scheme of Evaluation Pattern
Table 1A: Scheme of Continuous Evaluation (CE/Practical)
Scheme of Evaluation Pattern

Sub-components	Maximum Marks	Conditions for passing
1) Project	15	A learner must be present for each of the sub-components.
2) Journal and Viva	5	
Total	20	

Table 1B: Scheme of Semester End Examination (SEE) Evaluation

Question Paper Pattern for Semester End Examination (SEE)

Maximum Marks: 30 **Duration: I Hrs.**

Note: All questions are compulsory. Each question has an internal choice.

Question Number		Nature of Questions	Maximum Marks
1)	**Attempt any 3**		
	a)		15
	b)		
	c)		
	d)		
	e)		
2)	**Attempt any 3**		
	a)		15
	b)		
	c)		
	d)		
	e)		