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B.M.S. College of Engineering, Bengaluru-560019

Autonomous Institute Affiliated to VTU

May / June 2025 Semester End Main Examinations

Programme: B.E. **Semester: VIII**

Branch: Computer Science and Engineering **Duration: 3 hrs.**

Course Code: 22CS8HSGNC **Max Marks: 100**

Course: Green Computing

Instructions: 1. Answer any FIVE full questions, choosing one full question from each unit.
2. Missing data, if any, may be suitably assumed.

Important Note: Completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages. Revealing of identification, appeal to evaluator will be treated as malpractice.

		UNIT - I	CO	PO	Marks
1	a)	Briefly outline the different stages involved in the life cycle of an electronic device. Elaborate all the stages with a block diagram.	CO2	PO1,7	**8**
	b)	Unwanted computers, monitors and other hardware should be disposed in an environmentally friendly way. Suggest the Three Rs of Green IT.	CO1	PO1,7	**6**
	c)	Analyze how power consumption can be reduced in PCs, Notebooks and Servers. Justify with appropriate measures.	CO2	PO2,7	**6**
		OR			
2	a)	How can energy consumption be reduced across different categories of electronic devices?	CO2	PO1,7	**6**
	b)	Explain the concept of green IT as a Burden and Opportunity and critically evaluate both perspectives.	CO1	PO1,7	**8**
	c)	Outline key practices for reuse, recycling, and safe disposal of IT equipment.	CO2	PO1	**6**
		UNIT - II			
3	a)	Explain how Buffering during multimedia playback and impact of fragmentation can save energy consumption.	CO1	PO1	**8**
	b)	Explain the classification of energy saving software techniques.	CO1	PO1	**6**
	c)	Interpret the significance of different types of processor power states in energy saving.	CO1	PO1	**6**
		OR			

	4	a)	Analyze the evaluation of software sustainability performance in a real-world project, focusing on its development timeline, chosen technologies, and evaluation context.	*CO2*	*PO1*	**8**
		b)	Describe the sustainable software development methodology in detail, supported by a clear and well-labeled diagram.	*CO1*	*PO1*	**6**
		c)	Explain key software sustainability attributes and the metrics used to evaluate them.	*CO1*	*PO1*	**6**
			UNIT - III			
	5	a)	Explain the Business Drivers of Green IT Strategy.	*CO1*	*PO1*	**8**
		b)	Explain the strategies to reduce carbon emissions.	*CO1*	*PO1*	**6**
		c)	Analyze the evolution of IT platforms infrastructures towards fully virtualized cloud based system.	*CO2*	*PO2*	**6**
			OR			
	6	a)	Describe the server power management of company data center considering usage model, benefits and use cases.	*CO1*	*PO1*	**8**
		b)	Explain the objectives of green networking.	*CO1*	*PO1*	**6**
		c)	Analyze the business dimensions for green IT transformation.	*CO2*	*PO2*	**6**
			UNIT - IV			
	7	a)	Discuss the stages in strategizing green initiatives.	*CO1*	*PO1*	**10**
		b)	Discuss the demanufacturing and reverse logistics process with a neat diagram.	*CO1*	*PO1*	**10**
			OR			
	8	a)	Describe a typical ERP system, including its modules and the relationships between them.	*CO1*	*PO1*	**10**
		b)	Explain the progressive implementation of green initiatives.	*CO1*	*PO1*	**10**
			UNIT - V			
	9	a)	Explain the Seven-Step approach to creating Green IT Strategy.	*CO1*	*PO1*	**10**
		b)	Explain the factors that have enabled cloud computing to create lower energy usage and carbon emissions for ICT	*CO1*	*PO1*	**10**
			OR			
	10	a)	Explain the key characteristics exhibited by clouds.	*CO1*	*PO1*	**10**
		b)	Explain the green cloud architecture with neat diagram.	*CO1*	*PO1*	**10**

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