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

Autonomous Institute Affiliated to VTU

May 2024 Semester End Main Examinations

Programme: B.E. **Semester: VIII**
Branch: Information Science and Engineering **Duration: 3 hrs.**
Course Code: 20IS8HSGCG **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)	Provide the significance of Green-IT and its complementary IT-enabled approaches in improving environmental sustainability with a diagram.	CO1		**06**
	b)	Identify the life cycle stages of an environmentally friendly device and the design process intricacies essential for meeting predefined environmental targets with a neat diagram.	CO2		**08**
	c)	Summarize the principles of the **3Rs** in the context of Green IT practices	CO1	PO1	**06**
		UNIT - II			
2	a)	Distinguish between active and idle software with examples	CO1		**06**
	b)	Specify the quality attributes that are relevant to sustainability performance.	CO2	PO1	**06**
	c)	Interpret the significance of different types of Processor Power States in energy saving.	CO2	PO1	**08**
		OR			
3	a)	List some programming methods used to achieve computational efficiency. How does the choice of algorithms and data structures impact an application's performance and what considerations should be taken into account when selecting between different algorithms and data structures.	CO2	PO1	**06**
	b)	Interpret the classification of energy saving software techniques.	CO2	PO1	**08**
	c)	Describe how Windows 7 Power Cfg command line tool lets users control their system's power management settings.	CO2	PO1	**06**
		UNIT - III			
4	a)	Identify some of the innovative cooling techniques that can be implemented in a green data center to reduce energy consumption.	CO3	PO2	**06**

		b)	Consolidate server power management of BMSCE Data center considering usage models and benefits.	*CO3*	*PO2*	**10**
		c)	Analyze how does virtualization technologies contribute to the energy efficiency of a green data center.	*CO3*	*PO2*	**04**
			UNIT-IV			
	5	a)	Interpret the two core components in Green-Networking Technology to achieve sustainable and lower cost services with a neat diagram.	*CO4*	*PO7*	**06**
		b)	List the strategies for reducing carbon footprint throughout the entire Business Life Cycle.	*CO4*	*PO7*	**04**
		c)	Provide the major steps that can be executed iteratively (three times) to produce a green IT strategy with a neat diagram	*CO4*	*PO7*	**10**
			OR			
	6	a)	Mention the objectives of green networking and communications.	*CO4*	*PO7*	**04**
		b)	Illustrate the business dimensions of green IT transformation using a visually organized representation.	*CO4*	*PO7*	**06**
		c)	Identify the objectives involved in development of green network protocols.	*CO4*	*PO7*	**10**
			UNIT - V			
	7	a)	Summarize the key sustainability dimensions associated with information technology.	*CO4*	*PO7*	**08**
		b)	Understanding the impacts of a product or service requires an analysis of all potential impacts associated with a product, process or service for its entire life cycle. Is there any technique to achieve this? If so give the complete details.	*CO2*	*PO7*	**06**
		c)	Provide the tools used for assessing the infrastructure energy efficiency and operational effectiveness of the data center.	*CO3*	*PO3*	**06**

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