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

Autonomous Institute Affiliated to VTU

## January / February 2025 Semester End Main Examinations

**Programme: B.E.**

**Semester: VII**

**Branch: Institutional Elective**

**Duration: 3 hrs.**

**Course Code: 23CY7OEGET**

**Max Marks: 100**

**Course: Green Energy Technology**

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

			<b>UNIT - I</b>			<b>CO</b>	<b>PO</b>	<b>Marks</b>
<b>Important Note:</b> Completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages. Revealing of identification, appeal to evaluator will be treated as malpractice.	1	a)	Illustrate the role of green energy in economic development					
		b)	Explain the advantages and challenges of Wind Power.			<i>CO1</i>	<i>PO1</i>	<b>6</b>
		c)	Elaborate on the green Energy social transformation. Discuss with the suitable example.					
			<b>OR</b>					
	2	a)	Differentiate green energy and clean energy.			<i>CO1</i>	<i>PO1</i>	<b>6</b>
		b)	Describe the factors affecting green energy technology.					
		c)	Explain the basic Principle of Hydropower.					
			<b>UNIT - II</b>					
	3	a)	Discuss the challenges involved in implementation of green energy management.			<i>CO1</i>	<i>PO1</i>	<b>8</b>
		b)	Elaborate on the harvesting of green energy through waste.					
		c)	Discuss the advantages and disadvantage of waste-to-energy.					
			<b>OR</b>					
	4	a)	Write a note on green energy management in India.			<i>CO1</i>	<i>PO1</i>	<b>6</b>
		b)	Describe the importance of hazardous materials disposal					
		c)	Illustrate the golden rules of green energy technology.					
			<b>UNIT - III</b>					
	5	a)	Compare solar cell and Photovoltaic cell.			<i>CO1</i>	<i>PO1</i>	<b>6</b>

	b)	Explain the components and working of windmill.	CO1	PO1	<b>6</b>
	c)	Illustrate the factors affecting the conversion efficiency of mechanical energy captured by wind blades into electrical energy.	CO1	PO1 PO7	<b>8</b>
		<b>OR</b>			
6	a)	Describe the construction and working of photovoltaic cell.	CO1	PO1	<b>8</b>
	b)	Classify biogas plants with suitable examples.	CO1	PO1 PO7	<b>6</b>
	c)	Discuss the advantage and disadvantage of biogas.	CO1	PO1	<b>6</b>
		<b>UNIT - IV</b>			
7	a)	Discuss the types of biofertilizers and mention its benefits.	CO1	PO1	<b>6</b>
	b)	Define bioremediation. Discuss its advantages and applications.	CO1	PO1	<b>8</b>
	c)	Appraise the statement: Hydrogen is an alternative fuel resource.	CO2	PO2	<b>6</b>
		<b>OR</b>			
8	a)	Outline the classification of biopesticides. List benefits and applications.	CO1	PO1	<b>8</b>
	b)	Brief the waste-to-energy technologies.	CO1	PO1	<b>6</b>
	c)	Discuss the difference between green battery and traditional battery.	CO1	PO1	<b>6</b>
		<b>UNIT - V</b>			
9	a)	Brief the solid fuel utilization with carbon capture.	CO1	PO1 PO7	<b>6</b>
	b)	Discuss the benefits of LED Lighting.	CO1	PO1 PO7	<b>8</b>
	c)	Define carbon footprint. How to measure carbon footprint.	CO1	PO1 PO7	<b>6</b>
		<b>OR</b>			
10	a)	Describe the biomass carbon removal and storage.	CO1	PO1 PO7	<b>6</b>
	b)	Discuss the advantage and disadvantage of vertical forming.	CO1	PO1	<b>6</b>
	c)	Elaborate on the pollution risk management with appropriate examples.	CO1	PO1 PO7	<b>8</b>

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