

THE KAVERY ENGINEERING COLLEGE*(An Autonomous Institution)***B.E/B.TECH DEGREE END SEMESTER THEORY EXAMINATIONS, NOV/DEC 2025***Fourth Semester**Common to all Branches***GE3451 - Environmental Sciences and Sustainability***Regulations - 2021**Duration : 3 Hrs**Maximum: 100 Marks***PART - A (ANSWER ALL QUESTIONS) (Marks 10*2=20)**

<i>Q.No</i>	<i>Questions</i>	<i>BLT</i>	<i>CO</i>	<i>Marks</i>
1.	Define ecological succession.	L1	1	2
2.	What are hotspots of biodiversity?	L1	1	2
3.	Differentiate between hazardous and non-hazardous waste.	L2	2	2
4.	List any four preventive measures for soil pollution.	L1	2	2
5.	Compare renewable and non-renewable energy resources.	L2	3	2
6.	Outline any two need for new energy sources.	L2	3	2
7.	Define sustainability.	L1	4	2
8.	List the significance of carbon footprint.	L1	4	2
9.	Write any two benefits of conducting Material Life Cycle Assessment (MLCA).	L1	5	2
10.	How do human activities impact the carbon cycle?	L1	5	2

PART - B (ANSWER ALL QUESTIONS) (Marks 5*16 = 80)

<i>Q.No</i>	<i>Questions</i>	<i>BLT</i>	<i>CO</i>	<i>Marks</i>
11.	a Illustrate the process of energy flow in an ecosystem with a suitable diagram.	L2	1	16
	Or			
	b i Infer the threats to biodiversity due to habitat loss and poaching.	L2	1	8
	ii Discuss the in-situ and ex-situ conservation of biodiversity with examples.	L2	1	8
12.	a i Illustrate the effects of noise pollution on human health.	L2	2	8
	ii Discuss briefly on Environment act 1986.	L2	2	8
	Or			
	b Suggest a comprehensive solid waste and E-waste management plan for a metropolitan city.	L2	2	16

13.	a	i	With a neat sketch, illustrate the working of a tidal energy power plant.	L4	3	8
		ii	Analyze the potential of hydrogen energy as a renewable resource.	L4	3	8
Or						
	b	i	Describe the various components of a geothermal power plant. Explain the processes involved in converting geothermal energy into electricity.	L4	3	10
		ii	Discuss the merits and demerits of Ocean energy.	L4	3	6
14.	a		Explain the Millennium Development Goals (MDGs). Discuss their achievements, limitations.	L2	4	16
	Or					
	b		Illustrate the impacts of climate change at global, regional, and local levels with suitable examples/case studies.	L2	4	16
15.	a		Analyze the concepts of Zero Waste and the R Concept (Refuse, Reduce, Reuse, Recycle, Recover). Discuss their role in promoting a Circular Economy.	L4	5	16
	Or					
	b		Analyze the role of Green Buildings, Green Materials, Energy Efficiency, and Sustainable Transport in achieving sustainability.	L4	5	16