

THE KAVERY ENGINEERING COLLEGE
(An Autonomous Institution)

B.E/B.TECH DEGREE END SEMESTER THEORY EXAMINATIONS, APRIL-MAY 2025

Fourth Semester

Agricultural Engineering

GE3451 – Environmental Science and Sustainability
(Common to all Branches)

Regulations – 2021

Duration: 3 Hrs

Maximum: 100 Marks

PART – A (ANSWER ALL QUESTIONS) (Marks 10*2=20)

Q.No	Questions	BLT	CO	Marks
1.	Define ecological pyramid.	L1	1	2
2.	Define biodiversity.	L1	1	2
3.	Recall the consequences of soil pollution.	L1	2	2
4.	Infer the needs of e-waste management.	L2	2	2
5.	Identify how tidal energy is used for generation of electric power.	L2	3	2
6.	Classify the types of energy sources.	L2	3	2
7.	Apply the concept of carbon credit in a business scenario.	L3	4	2
8.	What is climate change?	L1	4	2
9.	How would you implement zero-waste practices in a college?	L3	5	2
10.	Define energy cycle.	L1	5	2

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

Q.No	Questions	BLT	CO	Marks
11.	a i Explain the energy flow of an ecosystem in environment and an atmosphere.	L2	1	8
	i Explain the various types of biodiversity with the suitable examples.	L2	1	8
	i			
	Or			
	b i Illustrate the Man-wildlife conflict affect biodiversity.	L2	1	8

i	Discuss the in-situ and ex-situ conservation of biodiversity.	L2	1	8
i				

12.	a	i	Explain the causes, effects and preventive measures of air pollution.	L2	2	8
		i	How would you summarize the process of solid waste management and discuss the composting method of solid waste disposal?	L2	2	8
		i				

Or

b	i	Explain role of an occupational health and safety management system in environmental safety.	L2	2	8	
		i	Summarize the main objectives and salient features of the environmental protection act.	L2	2	8
		i				

13.	a	i	Compare renewable and non-renewable sources of energy.	L4	3	8
		i	Compare and contrast the hydrogen energy and geothermal energy.	L4	3	8
		i				

Or

b	i	Construct with examples how ocean and tidal energy can be harnessed in coastal areas.	L4	3	8	
		i	Analyze the need for exploring new sources of energy in today's world.	L4	3	8
		i				

14.	a	Analyze the causes and consequences of climate change at the global and local levels.	L4	4	16
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Or

b	Examine a case study on environmental management in an industry and identify areas for improvement.	L4	4	16
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15.	a	Apply the principles of green engineering in designing an eco-friendly product.	L3	5	16
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Or

b	Utilize the carbon cycle to explain how carbon sequestration helps mitigate climate change.	L3	5	16
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