Register No : _____

THE KAVERY ENGINEERING COLLEGE

(An Autonomous Institution)

B.E/B.TECH DEGREE END SEMESTER THEORY EXAMINATIONS, APRIL/MAY 2026

Sixth Semester

Agricultural Engineering

CAI332 - Climate Change and Adaptation

Regulations - 2021

Duration : 3 Hrs *Maximum : 100 Marks*

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

Q.No	*Questions*	*BTL*	*CO*	*Marks*
1.	What is ozone-depleting gases? Give examples.	L1	1	2
2.	How do greenhouse gases influence global warming?	L2	1	2
3.	What is meant by atmospheric stability?	L1	2	2
4.	What is the effect of temperature inversion on pollution dispersion?	L2	2	2
5.	Describe the impact of climate change on agriculture.	L2	3	2
6.	Relate climate change effects to water resource management.	L3	3	2
7.	What is CDM (Clean Development Mechanism)?	L1	4	2
8.	Differentiate global and Indian evidences of climate change.	L2	4	2
9.	Relate bio-fuels and alternate energy sources to climate change mitigation.	L3	5	2
10.	What is carbon sequestration?	L1	5	2

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

Q.No		*Questions*	*BLT*	*CO*	*Marks*
11.	a	Describe the greenhouse effect and the radiative effects of greenhouse gases, and explain how they contribute to climate change.	L2	1	16
		Or			
	b	Describe the carbon cycle and hydrological cycle with neat diagrams and their significance in regulating the Earth's climate.	L2	1	16
12.	a	Examine the different layers of the atmosphere and their characteristics in relation to altitude and temperature.	L4	2	16
		Or			
	b	Define lapse rates and discuss their variations in different atmospheric layers. How do lapse rates affect atmospheric stability?	L4	2	16
13.	a	Explain how climate change affects agriculture and water resources, and discuss the consequences on food security.	L2	3	16
		Or			
	b	Explain the risks of irreversible changes due to climate change and discuss why some changes cannot be reversed.	L2	3	16

14.	a	Explain the Intergovernmental Panel on Climate Change (IPCC). State its role in climate change assessment and policy support.	L2	4	16
		Or			
	b	Describe the evidences of climate change at global and national (India) levels.	L2	4	16
15.	a	Define carbon sequestration and carbon capture and storage (CCS), and explain their role in reducing atmospheric carbon and mitigating climate change.	L2	5	16
		Or			
	b	Explain hydrogen energy and biofuels, and discuss their importance as sustainable alternatives to conventional fuels.	L2	5	16