

BONAM VENKATA CHALAMAYYA INSTITUTE OF TECHNOLOGY & SCIENCE
(AUTONOMOUS)

III - B.Tech I-Semester Supplementary Examinations (BR23), Mar/Apr - 2026

CLIMATE CHANGE IMPACT ON ECO-SYSTEM (CSE)

Time: 3 hours

Max. Marks: 70

*Question Paper consists of Part-A and Part-B
Answer ALL the question in Part-A and Part-B*

PART-A (10X2 = 20M)

	Marks	CO	BL
1. a) Distinguish between climate and weather	(2M)	CO1	BL2
b) Define Earth's heat balance.	(2M)	CO1	BL1
c) What is runoff?	(2M)	CO2	BL1
d) Describe evapotranspiration	(2M)	CO2	BL2
e) What is atmospheric stability?	(2M)	CO3	BL1
f) Define vadose zone	(2M)	CO3	BL1
g) Define heat waves	(2M)	CO4	BL1
h) List any two drought indicators	(2M)	CO4	BL1
i) Define climate change	(2M)	CO5	BL1
j) What is downscaling?	(2M)	CO5	BL1

PART-B (5X10 = 50M)

2a. Explain the heat balance of the Earth's atmosphere system and its influence on global temperature distribution.	10(M)	CO1	BL2
(OR)			
3a. Discuss the factors responsible for temporal and spatial variations in air temperature.	10(M)	CO1	BL2
4a. Explain infiltration, percolation, and groundwater recharge with examples.	5(M)	CO2	BL2
b. Describe the evapotranspiration and factors controlling it.	5(M)	CO2	BL2
(OR)			
5a. Apply the water balance method to predict water availability under varying climatic conditions.	10(M)	CO2	BL3
6a. Explain the different types of precipitation.	5(M)	CO3	BL2
6b. Discuss atmospheric stability and its influence on cloud formation and precipitation.	5(M)	CO3	BL2
(OR)			
7a. Describe global wind circulation and its role in rainfall distribution.	10(M)	CO3	BL2

- 8a. Explain briefly the floods and drought and their impacts on the environment and humans with suitable examples. 10(M) CO4 BL2
- (OR)
- 9a. Describe the relationship between heat waves and climate variability with recent examples from India. 10(M) CO4 BL2
- 10a. Explain the impacts on hydrology and the ecosystem by using a climate change model. 10(M) CO5 BL2
- (OR)
- 11a. Describe the concept of downscaling and explain its importance in climate studies. 10(M) CO5 BL2
