

D

0400CET468052401



Pages: 2

Reg No.: _____

Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

Eighth Semester B.Tech Degree (R,S) Examination May 2024 (2019 Scheme)

Course Code: CET468

Course Name: CLIMATE CHANGE AND SUSTAINABILITY

Max. Marks: 100

Duration: 3 Hours

PART A

Answer all questions, each carries 3 marks.

Marks

- | | | |
|----|---|-----|
| 1 | Differentiate between constant and variable gases in the atmosphere with two examples each | (3) |
| 2 | Summarize the effect of air pressure on climate | (3) |
| 3 | Define carbon footprint. Mention two benefits of conducting carbon footprint evaluation | (3) |
| 4 | Give a brief description of three components of vulnerability | (3) |
| 5 | Discuss how 3R concept can lead to sustainability | (3) |
| 6 | What is meant by Life Cycle Assessment (LCA)? List 2 benefits of conducting LCA | (3) |
| 7 | Explain the concept of circular economy with one example | (3) |
| 8 | Explain any one green engineering technology that can be integrated in a building construction to reduce extreme heat due to climate change | (3) |
| 9 | Give a brief description on the three pillars of sustainability | (3) |
| 10 | How will you apply sustainability engineering in waste management? Give two examples | (3) |

PART B

Answer any one full question from each module, each carries 14 marks.

Module I

- 11 Define temperature inversion and state any three effects of it. Give detailed explanation of any three types of temperature inversions (14)

OR

- 12 Explain in detail, the formation of cyclones and anticyclones with suitable illustrations and give any two effects of them. List any four differences between cyclones and anticyclones (14)

Module II

- 13 Explain the concept of greenhouse effect in detail. List down four major greenhouse gases, their sources and effects (14)

OR

- 14 What are the different ways by which agriculture is affected by climate change? Explain any four in detail, with one example each (14)

Module III

- 15 a) Define urbanization. List two positive and two negative impacts each due to urbanization (4)
b) Briefly describe 5 causes for formation of urban sprawls and 5 effects due to urban sprawl (10)

OR

- 16 Provide four green energy options that can be adopted in a tropical country like India. Explain each (14)

Module IV

- 17 a) Explain any four nature-based solutions that can be adopted to control calamities due to climate-triggered urban flooding (14)

OR

- 18 a) What are the common features of sustainable cities? State two case studies of cities that are known to be sustainable, with detailed explanation on how these cities achieved a sustainable position (14)

Module V

- 19 a) Explain the process of evolution of Kyoto Protocol. Discuss the mechanisms through which Kyoto Protocol was intended to achieve its designated goal (14)

OR

- 20 a) Describe any one case study on a water related calamity that has occurred due to climate change and list down the risk reduction measures adopted by the authority to address the same (14)
