

GUJARAT TECHNOLOGICAL UNIVERSITY

BE- SEMESTER- VI EXAMINATION – SUMMER 2026

Subject Code:3161312

Date:26-05-2026

Subject Name:Global Warming and Climate Change

Time:10:30 AM TO 01:00 PM

Total Marks:70

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Simple and non-programmable scientific calculators are allowed.

- Q.1** (a) Define the terms: 1. Trade winds 2. Westerlies 3. ITCS **03**
(b) Differentiate between Natural and Enhanced Green House Effect. **04**
(c) Justify the statement: “The Sun : A Weather Engine”. **07**
- Q.2** (a) Define the term Weather and Climate. **03**
(b) Describe the sources of Methane in details. **04**
(c) Explain the mechanisms of sunlight interacts with GHGs. **07**
- OR**
- (c) Compare CO₂ and CH₄ as Green House Gases. **07**
- Q.3** (a) Explain the concept Global Warming. **03**
(b) Enlist and describe any TWO climate element. **04**
(c) Describe the Global Winds Circulation with diagram. **07**
- OR**
- Q.3** (a) Explain the Climate Impacts with example. **03**
(b) Differentiate between Global Warming and Climate Change. **04**
(c) Discuss the Global Carbon cycle in detail **07**
- Q.4** (a) Describe Temperature and Salinity Variability of the Ocean. **03**
(b) Explain the El-Nino Southern Oscillation (ENSO) in detail. **04**
(c) Discuss the role of Oceans in Climate Change. **07**
- OR**
- Q.4** (a) Explain Global Circulation Model. **03**
(b) Differentiate between Climate model and Weather model. **04**
(c) Discuss the applications of Climate Modelling. **07**
- Q.5** (a) Explain the role of IPCC and UNFCCC. **03**
(b) Describe the Kyoto Protocol. **04**
(c) Discuss the concept of Carbon Capture and Sequestration (CCS). **07**
- OR**
- Q.5** (a) Explain the applications of Carbon Capture and Sequestration (CCS). **03**
(b) Discuss Enhanced Oil Recovery system. **04**
(c) Explain any one technologies used to capture CO₂ from the industrial source. **07**
