

**2024**  
**SRMUJ**  
**1<sup>st</sup> Semester Examination**  
**M.Sc.**  
**GEOGRAPHY**  
**GEO-103**  
**Climatology**

**Full Marks: 40**

**Time: 2 Hours**

*The figures in the margin indicate full marks. Candidates are required to give their answers in their own words as far as practicable.*

**1. Answer any four from the following questions:**

**2×4**

- a) What is hydrostatic equilibrium?
- b) Why is the mean temperature of Bay of Bengal higher than Arabian sea?
- c) What is Mascarene High?
- d) What is 'Pineapple Express'?
- e) Identify some characteristics of the highland climate.
- f) What is IOD?
- g) Differentiate between barotropic and baroclinic surface.

**2. Answer any four from the following questions:**

**8×4**

- a) What is the index cycle of Jet Stream? Discuss the characteristics of different types of Jet Stream. **4+4**
- b) Discuss the types of atmospheric stability and their relation to adiabatic processes.
- c) How does ENSO affect Indian Summer Monsoon variability? Explain the role of sea surface temperature (SST) anomalies in developing different El-Nino regions. **4+4**
- d) Illustrate the maritime influence on coastal weather. Explain the impacts of the Holocene Climatic Optimum. **4+4**
- e) Explain the mechanism of thunderstorm formation and describe its weather conditions.
- f) Discuss the evidences of past climate change.