

**BACHELORS WITH GEOGRAPHY AS MAJOR (CT – I)**  
**6<sup>th</sup> SEMESTER**

**GGY622J1 GEOGRAPGY \_ CLIMATOLOGY**

**CREDITS: THEORY= 3; TUTORIAL =1**

***COURSE OUTCOME:***

*This course is designed to equip the students with the necessary skill of understanding complex atmospheric interactions, earth's heat budget, heat balance and various other aspects of climatic variability. The course is aimed to broaden the understanding of students regarding global, regional and local climatic scenarios.*

**UNIT – I**

- Climatology: Concept and Scope
- Weather and Climate
- Composition and Structure of Atmosphere
- Insolation, Heat Budget & Latitudinal Heat Balance

**UNIT – II**

- Vertical & Horizontal Distribution of Temperature
- Normal Lapse Rate and Inversion of Temperature
- Tri-Cellular Meridional Pattern of Atmosphere
- Airmasses and Fronts: Origin & Types

**UNIT – III**

- Jet Streams: Origin and Types
- Climatic Classification Schemes: (i) Koppen (ii) Thornthwaite
- Theories of Indian Monsoon: Classical & Modern Theory
- Western Disturbances: Origin & Significance

**TUTORIAL (1 CREDIT)**

- Urban Heat Island
- Global Climate Change
- Role and Response of Humans in Climate Change
- Preparation of Chirograph and Hythergraph

**SUGGESTED READINGS:**

- A. K. Barua., Climatology, Dominant Publishers and Distributors, 2005.
- Anthony J. Vega & Robert V. Rohil., Climatology, 2008.
- Critchfield, H., General Climatology, Prentice Hall, New York, 1975.
- Edward Aguada & J. E. Brat., Understanding Weather and Climate, Pearson International 2016.
- Fredrick K Lutgen., The Atmosphere an introduction to Meteorology, Princeton Hall, 2006.
- J. T. Houghton., Global Warming: A Complete Briefing (5<sup>th</sup> Ed.), Cambridge University Press, 2015.
- S. K. Paneerselvam., Global Warming and Climate Change, AHP Publishing Co., 2012.
- Stringer, E. T., Foundation of Climatology, Surjeet Publication, Delhi, 1982.