

Category III

B.A. Programmes with Geography as non-Major or Minor discipline

DISCIPLINE SPECIFIC CORE COURSE – 5 (DSC-07): CLIMATOLOGY

Credit distribution, Eligibility and Pre-requisites of the Course

Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical/ Practice		
CLIMATOLOGY	4	3	1	0	12 th Pass	NIL

Learning Objectives

The Learning Outcomes of this course are as follows:

- Explaining various dimensions of climatology
- Analysing atmospheric moisture along with disturbances
- An understanding world climatic region

Learning outcomes

The Learning Outcomes of this course are as follows:

1. Detailed exposure to climatology.
2. In-depth knowledge of atmospheric moisture and cyclonic features.
3. Knowledge of the mechanism of monsoon and climatic classification.

SYLLABUS OF DSC-07

Unit-I: Introduction (2hrs):

- Nature, Scope, and Application.

Unit-II: Atmospheric Moisture (12hrs):

- Humidity-types, Evapotranspiration, Condensation- process and forms (a. clouds, and b. fog), Precipitation- forms and types, Atmospheric Stability and Instability.

Unit-III: Atmospheric Disturbances (12hrs):

- Tropical Cyclones- Characteristics, Mechanism and Distribution.
- Temperate Cyclones- Characteristics, Mechanism (Polar Front Theory) and Distribution.

Unit-IV: Monsoon (10hrs):

- Mechanism of monsoon.
- Global teleconnections in relation to monsoon in India, ENSO, Indian Ocean Dipole Effect.

- Jet Streams and Monsoon in India.

Unit-V: Climatic Classification (9hrs):

- Concept and Purpose of Classification.
- Koppen's Classification.

Suggestive Readings

1. Frederick K. Lutgens, Edward J. Tarbuck, Dennis G. Tasa (2015) The Atmosphere: An Introduction to Meteorology, Pearson Education
2. Barry R. G. and Carleton A. M. (2001) Synoptic and Dynamic Climatology, Routledge, UK.
3. Barry R. G. and Corley R. J. (2003) Atmosphere, Weather and Climate, Routledge, New York.
4. Critchfield H. J. (1987) General Climatology, Prentice-Hall of India, New Delhi
5. Lutgens F. K., Tarbuck E. J. and Tasa D. (2009) The Atmosphere: An Introduction to Meteorology
6. Oliver J. E. and Hidore J.J. (2002) Climatology: An Atmospheric Science, Pearson
7. Trewartha G. T. and Horne L. H. (1980) An Introduction to Climate, McGraw-Hill.
8. Gupta S.L. (2000): Jalvayu Vigyan, Hindi Madhyam Karyanvay Nidishalya, Delhi Vishwa Vidhyalaya, Delhi
9. Lal, D. S. (2006): Jalvayu Vigyan, Prayag Pustak Bhavan, Allahabad
10. Vatal, M. (1986): Bhautik Bhugol, Central Book Depot, Allahabad
11. Singh, S. (2009): Jalvayu Vigyan, Prayag Pustak Bhawan, Allahabad
12. Malhotra, N. and Sen, S. (2018) Climatology, M K Books, New Delhi

Practical component (if any) - NIL

Note: Examination scheme and mode shall be as prescribed by the Examination Branch, University of Delhi, from time to time.