



Syllabus
Indian Knowledge System: Population Studies
Semester III : 2025-2026 onward batch



(स्थापना / Established in 1956)
बेहतर भविष्य के लिए क्षमता निर्माण
Capacity Building for a Better Future

**INTERNATIONAL INSTITUTE
FOR POPULATION SCIENCES**

[Deemed to be University]

Deonar, Mumbai 400 088. <http://iipsindia.ac.in>

Syllabus

INDIAN KNOWLEDGE SYSTEM: POPULATION STUDIES

F2

30

Hours

Objective: This foundation course aims to acquaint students with the Indian knowledge system and its linkages with the discipline of population studies

Course Outcomes: On successful completion of this course, the students will be able to

CO1: gain familiarity with the contribution of Indian knowledge to population studies.

CO2: get acquainted with and recognize the significance of scientific contributions in population studies by Indian Demographers/Population Scientists.

CO3: know the contribution of Indian knowledge towards the development of Mathematical Sciences.

CO4: understand the contribution of Indian knowledge in promoting health and well-being, and the importance of nature and climate, and their respectful treatment in achieving sustainable development.

Course Contents:

I. Indian Demographers/Population Scientists and their Contribution to the Field of Population Studies

II. Population Studies: Urban planning (Indus valley civilization) and others; Counting system of people (Arthashastra of Kautilya); Ancient education system (Universities like Taxila, Nalanda, etc.)

III. Health and Well Being: Medical knowledge (Works of Sushruta and Charaka, etc.); Tribal medicine system; Ayurveda, yoga, and meditation; Ancient knowledge on nutrition; Lifestyle (different kinds of sports) and Languages

IV. Mathematical Sciences: Ancient record-keeping system; Calculus, Sulabha Sutra, Zero, Decimal; Arithmetic, trigonometry (Aryabhata's work), Astronomy; Pioneering contribution in Statistics

V. Nature and Climate: Importance of Nature and the concept of the five basic elements of life (not limited to humans); Role and Respect for Rivers and Forest; Planetary system (moon, sun, and star system) and Astronomical events (*Surya Grahan* (Solar eclipse) and *Chandra Grahan* (lunar eclipse)) and its impact and association on Earth's ecosystem.

Reading list:

- Srinivasan, K. (1998). Basic Demographic Techniques and Applications. Sage Publications.
- Bose, A. (1996). India's Basic Demographic Statistics. B.R. Publishing Corp.

- Possehl, G.L. (2002). The Indus Civilization: A Contemporary Perspective. Rowman Altamira.
- Thapar, R. (2002). Early India: From the Origins to AD 1300. Penguin.
- Tiwari, S. (2017). Ancient Indian Concepts of Health and Well-being. Indian Journal of History of Science, 52(4).
- Venketeswara Pai R, K Ramasubramanian, M S Sriram and M D Srinivas “ Karaṇapaddhati of Putumana Somayājī”, translation with detailed mathematical notes, jointly published by Springer and Hindustan Book Agency, 2018.
- 4. K. Ramasubramanian, M. S. Sriram Tantrasaṅgraha with detailed Mathematical Explanatory Notes, Hindustan Book Agency, Delhi 2011, repr. Springer, London 2011
- Gadgil, M. & Guha, R. (1992). This Fissured Land: An Ecological History of India. Oxford University Press.
- Gosling, D.L. (2001). Religion and Ecology in India and Southeast Asia. Routledge.