



### COURSE CONTENT

#### INDIAN KNOWLEDGE SYSTEM

##### IV Semester: CE

Course Code	Category	Hours / Week			Credit s	Maximum Marks		
		L	T	P		CIA	SEE	Total
2540028	Foundation	1	0	0	1	40	60	100
Contact Classes: 15	Tutorial Classes: Nil	Practical Classes: Nil			Total Classes: 15			

**Prerequisites:** There are no prerequisites for this course.

#### Course Overview:

Bharat is considered one of the oldest civilizations of the world. Some of the archaeological evidences proved the existence of Indus Valley Civilization in 7000 B.C. Bhartiya traditions, culture, cultural activities, rituals, sacraments, painting, art of dancing, art of singing etc. is being practised till the modern times without knowing scientific approaches behind that. Eternity of Indian knowledge system proved itself that not only many rituals but also many traditions, many streams of knowledge like astrology, mathematics, physics, chemistry, biology, language studies, yoga and meditation had been following from the starting till now with some changes, in the form of traditions.

This course is for undergraduate students to inculcate Indian values. It will promote advance study and inter disciplinary research on all aspects of the Indian knowledge system.

#### Course Objectives:

This course aims:

1. To provide a tribute of the rich culture and traditions of Indian knowledge system to students of various disciplines.
2. To introduce historical account on the education and scientific literature available in ancient Indian traditions and its connections with ancient Indian Philosophy
3. To give insights about the applications of Bharatiya Jnana Parampara
4. To introduce Indian approach towards health and wellbeing
5. To elaborate vast contribution of ancient Indian researchers, engineers, scientists and architects to the modern world

#### Course Outcomes:

Students will be able to:

1. Understand nature, scope and related fields of Indian knowledge system.
2. Demonstrate the scientific literature available in ancient Indian traditions
3. Understanding the application of Bharatiya Jnana Parampara
4. Understand Indian approach towards Wellbeing



5. Appreciate vast contribution of ancient Indian researchers, engineers, scientists and architects to the modern world

### **Unit 1: Introduction to Indian Knowledge Systems**

Meaning, Nature, Scope and Salient Aspects of Bharatiya Jnana Parampara - Introduction to Vedas, Upanishads, Vidya, Kala, Jnana, Shastra - Practices and Continuity of Tradition

### **Unit 2: Overview of History of Indian Education and Scientific Literature**

Gurukul System - Role of Sanskrit in Natural Language Processing - Scientific Literature - Vedic Literature - Available Scientific Treatises - Interlinkings

### **Unit 3: Introduction to Scientific Theories from Pure Sciences from Ancient Indian Knowledge Systems**

Overview of theories from available ancient Indian Literature about Physics, Chemistry and Mathematics - Interlinkings and applications

### **Unit 4: Introduction to Ancient Indian Wellness Systems**

Concept of Wellness – Yoga System - Ayurveda System - Ancient Indian Aesthetics

### **Unit 5: Development of Engineering, Science, Technology & Fine Arts in India**

Various Industries - Silk, Cotton and Ship Building - Evolution of Indian Fine Arts – Cave and Temple Architecture, Vastu - Vidya, Sculpture, Forts and Stepwells, Observatories and Paintings - Music and Natyakala - Cultural Traditions & Folk Arts

❖ **Pedagogy for Teachers: Apart from Class Room Instruction, the following Methods are Suggested.**

1. Project based activities and learning.
2. Presentation and case studies.
3. Film screening and book reviews.
4. Visit to historical places, archives centre, research centre or library nearby.

*Note: Activities mentioned above are only suggestive. Teacher-educators should encourage students to be innovative.*

### **Suggested Readings:**

1. B. Mahadevan, Bhat Vinayak and Nagendra Pavan R.N., (2022) 'Introduction to Indian Knowledge Systems: Concepts and Applications' PHI learning PVT, New Delhi ISBN [9789391818203]
2. Dharmapal (1971) 'Indian Science and Technology in the Eighteenth Century'. Other India Press, Goa.



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3. Kapil Kapoor, Singh Avdhesh Kumar, (2005) *'Indian Knowledge Systems'*  
D.K. Printworld (P) Ltd. ISBN 10: 8124603367 / ISBN 13: 9788124603369
4. Chakradeo, Ujwala, Temples of Bharat, Aayu Publications, New Delhi, 2024.
5. D.N. Bose, S.N. Sen and B. V. Subbarayappa, *A Concise History of Science in India*, Indian National Science Academy, New Delhi, 2009.
6. Datta B. and A. N. Singh, *History of Hindu Mathematics: Parts I and II*, Asia Publishing House, Bombay, 1962.
7. Kapoor, K. (2021), *Indian Knowledge System: Nature, Philosophy, Character in Indian Knowledge System*, vol. 1, Pub. Indian Institute of Advanced Studies, Shimla
8. Mahadevan, B., Bhat, V.R., Pavana, N. (2022), Philosophical Systems, in Introduction to Indian Knowledge System, Pub. PHI Learning, New Delhi.
9. Mahadevan, B., Bhat, V.R., Pavana, N. (2022), Knowledge: Framework and Classification, in Introduction to Indian Knowledge System, Pub. PHI Learning, New Delhi.

### **Video Resources:**

1. Introductory lectures by Prof. Gauri Mahulikar
2. Introductory lectures by Prof. Kapil Kapoor

### **Websites:**

- <https://iksin dia.org/index.php>
- Official Website of IKS- Indian Knowledge System
- <https://www.youtube.com/watch?v=uKcf-hSlcUE>
- Address by Prof Kapil Kapoor | Indian Institute of Advanced Study (FDP 2021)
- [https://www.youtube.com/watch?v=MDJTXNiH2\\_A](https://www.youtube.com/watch?v=MDJTXNiH2_A)
- Mukul Kanitkar on Bharatiya Knowledge System
- <https://www.youtube.com/watch?v=uARMhv97pjK>
- <https://www.youtube.com/watch?v=oTwgf56GbsA>
- Scientific History of India | Mukul Kanitkar Lecture in DTU
- <https://youtu.be/gNINmPJqXJc?si=WFBbuUT65mLZzpOW>
- Ancient India's Scientific Achievements & Contribution in Mathematics, Astronomy, Science & Medicine