

INSTITUTE	DIPLOMA STUDIES
PROGRAM	DIPLOMA ENGINEERING (CIVIL ENGINEERING)
SEMESTER	1
COURSE TITLE	BHARATIYA KNOWLEDGE SYSTEM
COURSE CODE	09IK0101
COURSE CREDITS	2

Objective:

- 1 Educate students with the foundational texts and classifications of Bharatiya Knowledge Systems and their historical evolution
- 2 Explore India's ancient contributions to mathematics, language sciences and astronomy
- 3 Highlight technological and architectural advancements in ancient Bharat
- 4 Introduce philosophical concepts such as life stages, life goals, karma, rebirth, and the quest for Moksha in Indian tradition

Course Outcomes: After completion of this course, student will be able to:

- 1 Describe the structure of Bharatiya Knowledge Systems and recognize key philosophical and literary traditions
- 2 Explain ancient Indian developments in mathematics, astronomy, and their relevance to modern science
- 3 Identify technological and architectural innovations rooted in ancient Indian practices
- 4 Express core Indian philosophies related to the purpose of life, spiritual evolution, and ethical living.

Pre-requisite of course:Not required

Teaching and Examination Scheme

Theory Hours	Tutorial Hours	Practical Hours	ESE	IA	CSE	Viva	Term Work
2	0	0	50	30	20	0	0

Contents : Unit	Topics	Contact Hours
1	Introduction to Bharatiya Knowledge Systems (BKS) Definition and classification of BKS, Caturdasa-Vidyasthana, The Vedic Corps & Philosophical Systems (Introduction to the Four Vedas , Vedangas ,Vedic School of Philosophy), Wisdom through the Ages (Puranas – An Encyclopaedical Work, Itihasa as a Source of Wisdom)	6

Contents : Unit	Topics	Contact Hours
2	Science and Mathematics in Ancient Bharat Indian Language Sciences (Components of a Language , Sanskrit and Role of Sanskrit in Natural Language Processing), Number System and Units of Measurement (Number System in India – Historical Evidence , Measurement for Time, Distance and Weight), Mathematics (An overview of the Development of Mathematics in India , Arithmetic, Geometry, Trigonometry and Algebra in Ancient texts), Astronomy (Vedanga Jyotish , Measuring Time & Calendar)	8
3	Engineering, Technology and Architecture in Ancient Bharat Metallurgy and Textile Technology (Metals and Metalworking Technology ,Iron and Steel Technology ,Textile and Dyeing – Indian Specialities), Irrigation and Water Management (Harappan and Traditional Water Management System of Gujarat , Historical Sites – Sringeverpur, South Indian Water Management System, Rain Water Harvesting System), Sacred Ecology and Environment (Sacred Hills, Mountains and Forest ,Nakshatrara Gyaan and Agriculture,Forest Management and Urban Planning), Transportation (Modes of Transportations and Reforms, Development of Trading Techniques), Vastu sastra – The Science of Architecture (Town Planning, Civil Architecture ,Temple Architecture)	12
4	Concepts of Life in Ancient Bharat Four Stages of Life , Four Goals of Human Life , Karma & Rebirth, Striving for Moksha	2
Total Hours		28

Textbook :

- 1 Introduction to Indian Knowledge System: Concepts and Applications, B. Mahadevan, Vinayak Rajat Bhat, Nagendra Pavana, PHI Learning Pvt. Ltd., 2022

References:

- 1 India's Glorious Scientific Tradition, India's Glorious Scientific Tradition, Suresh Soni, Ocean Books Pvt. Ltd., 2025
- 2 Traditional Knowledge System in India, Traditional Knowledge System in India, Amit Jha, Atlantic, 2023
- 3 Pride of India: A Glimpse into India's Scientific Heritage, Pride of India: A Glimpse into India's Scientific Heritage, -, Samskrita Bharati, -
- 4 IKS: The Knowledge system of Bharata, IKS: The Knowledge system of Bharata, Prof. Bhag Chand Chauhan, Garuda Prakashan, 2023
- 5 Indian Knowledge Systems: Volume I and II, Indian Knowledge Systems: Volume I and II, Kapil Kapoor and Avadhesh Kumar Singh, D. K. Print World Ltd., 2005
- 6 Ancient India, Ancient India, R. C. Majumdar, Motilal Banarsidass , 1952

Suggested Theory Distribution:

The suggested theory distribution as per Bloom's taxonomy is as follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery					
Remember / Knowledge	Understand	Apply	Analyze	Evaluate	Higher order Thinking / Creative
40.00	40.00	20.00	0.00	0.00	0.00

Instructional Method:

- 1 The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method, may also use any of tools such as demonstration, role play, Quiz, MOOCs etc.
- 2 The internal evaluation will be done on the basis of continuous evaluation of students in the class-room
- 3 Students will use supplementary resources such as online videos, videos and e-courses

Supplementary Resources:

- 1 <https://iksindia.org/>
- 2 https://www.youtube.com/@IKS_Media_MoE
- 3 https://onlinecourses.swayam2.ac.in/imb23_mg53/preview
- 4 https://onlinecourses.swayam2.ac.in/ntr25_ed18/preview