

Semester – I

Subject Name: Bharatiya Knowledge System

Subject Code: 09IK0101

Diploma Branches in which this subject is offered: All Branches

Objective:

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

Credits Earned: 2

Course Outcomes: Students will be able to

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

Pre-requisite of course: NA

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE	IA	CSE	Viva	Term work	
2	0	0	2	50	30	20	-	-	100

Contents

Unit	Topics	Lecture (Hours)
1	Introduction to Bharatiya Knowledge Systems (BKS)	6
	<ul style="list-style-type: none"> 1.1 Definition and classification of BKS 1.2 Caturdaśa-Vidyāsthāna 1.3 The Vedic Corps & Philosophical Systems <ul style="list-style-type: none"> 1.3.1 Introduction to the Four Vedas 1.3.2 Vedāṅgas 1.3.3 Vedic School of Philosophy 1.4 Wisdom through the Ages <ul style="list-style-type: none"> 1.4.1 Purāṇas – An Encyclopaedical Work 1.4.2 Itihāsa as a Source of Wisdom 	
2	Science and Mathematics in Ancient Bharat	8
	<ul style="list-style-type: none"> 2.1 Indian Language Sciences <ul style="list-style-type: none"> 2.1.1 Components of a Language 2.1.2 Sanskrit and Role of Sanskrit in Natural Language Processing 2.2 Number System and Units of Measurement <ul style="list-style-type: none"> 2.2.1 Number System in India – Historical Evidence 2.2.2 Measurement for Time, Distance and Weight 2.3 Mathematics <ul style="list-style-type: none"> 2.3.1 An overview of the Development of Mathematics in India 2.3.2 Arithmetic, Geometry, Trigonometry and Algebra in Ancient texts 2.4 Astronomy <ul style="list-style-type: none"> 2.4.1 Vedanga Jyotish 2.4.2 Measuring Time & Calendar 	
3	Engineering, Technology and Architecture in Ancient Bharat	12
	<ul style="list-style-type: none"> 3.1 Metallurgy and Textile Technology <ul style="list-style-type: none"> 3.1.1 Metals and Metalworking Technology 3.1.2 Iron and Steel Technology 3.1.3 Textile and Dyeing – Indian Specialities 3.2 Irrigation and Water Management <ul style="list-style-type: none"> 3.2.1 Harappan and Traditional Water Management System of Gujarat 3.2.2 Historical Sites – Sringeverpur, South Indian Water Management System, Rain Water Harvesting System 3.3 Sacred Ecology and Environment <ul style="list-style-type: none"> 3.3.1 Sacred Hills, Mountains and Forest 	

	3.3.2 Nakshatrara Gyaan and Agriculture 3.3.3 Forest Management and Urban Planning 3.4 Transportation 3.4.1 Modes of Transportations and Reforms 3.4.2 Development of Trading Techniques 3.5 Vastu sastra – The Science of Architecture 3.5.1 Town Planning 3.5.2 Civil Architecture 3.5.3 Temple Architecture	
4	Concepts of Life in Ancient Bharat	2
	4.1 Four Stages of Life (Ashramas) 4.2 Four Goals of Human Life (Purusharthas) 4.3 Karma & Rebirth 4.4 Striving for Moksha	

Suggested Theory distribution:

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

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyse	Evaluate	Create
40%	40%	20%	0%	0%	0%

Instructional Method:

- 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.
- The internal evaluation will be done on the basis of continuous evaluation of students in the class-room.
- Students will use supplementary resources such as online videos, videos and e-courses.

Recommended Books:

Sr. No.	Title of Books	Author	Publication
1	Introduction to Indian Knowledge System: Concepts and Applications	B. Mahadevan, Vinayak Rajat Bhat, Nagendra Pavana	PHI Learning Pvt. Ltd.
2	Indian Knowledge Systems: Volume I and II	Kapil Kapoor and Avadhesh Kumar Singh	D. K. Print World Ltd.
3	Ancient India	R. C. Majumdar	Motilal Banarsidass
4	IKS: The Knowledge system of Bharata	Prof. Bhag Chand Chauhan	Garuda Prakashan
5	India's Glorious Scientific Tradition	Suresh Soni	Ocean Books Pvt. Ltd.
6	Traditional Knowledge System in India	Amit Jha	Atlantic
7	Pride of India: A Glimpse into India's Scientific Heritage	-	Sanskrita Bharati

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