Devi Ahilya Vishwavidhyalaya, Indore, India Institute of Engineering & Technology					II Year B.Tech. (Civil Engineering)	
Course Code & Name	**Instructions Hours per Semester and Credits**					
3RVIK1 **INDIAN KNOWLEDGE SYSTEM**	**Classroom Instruction (CI)**		**Lab Instruction (LI)**	**Term Work (TW) and Self Learning (SL)**	**Total no. of Hours Per semester**	**Total Credits (Total Hours/30)**
	L	**T**	**P**	**TW+SL**	**60**	**2**
	20	**0**	**0**	**40**		

Course Learning Objectives:

1. To facilitate the students with the concepts of Indian traditional knowledge and to make them understand the importance of roots of Indian Knowledge System and its History.
2. To make students acquaint with the facets of traditional Indian knowledge in area of Engineering.
3. To Correlate Traditional Knowledge System with Contemporary Knowledge System and its significance in daily life.

Prerequisites:

Basic knowledge of Indian History.

COURSE CONTENTS

Unit-I

Introduction to Indian Knowledge System (IKS) : An overview of Indian Knowledge System (IKS): Definition of IKS - Classification framework of IKS - Unique aspects of IKS. The vedic corpus: Vedas and Vedangas - Distinctive features of vedic life. Indian philosophical systems: Different schools of philosophy.

Unit-II

Ancient Indian Mathematics: Salient features of the Indian numeral system - Importance of decimal representation - The discovery of zero and its importance - Unique approaches to represent numbers,Large number system, Pingala and Binary System, Measurement of Time,Distance and Weight, Great Mathematicians and their significant contributions in the area of Arithmetic, Algebra, Geometry, Trigonometry,Magic Squares.

Unit-III

Indian Astronomy: Highlights of Indian Astronomy: Historical development of astronomy in India - The Celestial Coordinate System ,Elements of Indian Calander, Aryabhatta and Siddhantic tradition, Panchang, Astronomical Instruments, Jantar Mantar.

Unit-IV

Indian Science and Technology Heritage - Metals and metalworking - Mining and ore extraction - Extraction of iron from Biotite by indigenous techniques - Manufacture of steel.
Town planning and architecture-Construction of Ancient Indian Buildings,Vastu Shastra etc.

Unit-V

Health, Wellness and Psychology- Ayurveda, Tri-dosa, Disesase Management, Yoga-Way of Life, Indian Approach to Psychology, The Body-Mind Intellect, Consciousness.

Course Outcomes:

CO. No.	CO	PO
CO1	Understand the historicity of Indian Knowledge System and the broad classification of Indian philosophical systems	PO-1, PO-6, PO-11
CO2	Understand the features of Indian numeral system and its role in science & technology advancement.	PO-1, PO-2, PO-5
CO3	Understand the basic elements of the Indian calendar and the components of Indian Panchanga	PO-1, PO-2, PO-4
CO4	Understand the science, engineering & technology heritage of ancient and medieval India.	PO-1, PO-3, PO-6, PO-11
CO5	Understand and Apply Life Skill and Spiritual aspects of Indian Knowledge System for betterment of Daily routine.	PO-6, PO-7, PO-8, PO-11

BOOKS RECOMMENDED:

[1].Introduction to Indian Knowledge System- concepts and applications, B Mahadevan, Vinayak Rajat Bhat, Nagendra Pavana R N, 2022, PHI Learning Private Ltd, ISBN-978-93- 91818-21-0
[2]. Knowledge Traditions and Practices of India, Kapil Kapoor, Avadesh Kumar Singh, Vol. 1, 2005, DK Print World (P) Ltd., ISBN 81-246-0334,.
[3]**.** S. N. Sen and K. S. Shukla, History of Astronomy in India, Indian National Science Academy, 2nd edition, New Delhi, 2000.
[4]. A. K. Bag, History of Technology in India, Vol. I, Indian National Science Academy, New Delhi, 1997.
[5]. B. Datta and A. N. Singh, History of Hindu Mathematics: Parts I and II, Asia Publishing House, Bombay, 1962.

CO-PO-PSO Relationship

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
3RTIK1.CO1	3	2				1	2	2			3	1	1	3
3RTIK1.CO2	3	3	2	2	1						2	2	2	3
3RTIK1.CO3	3	2	2	1	1						2	1	1	3
3RTIK1.CO4	3	2	3	2	2		1				2	2	2	3
3RTIK1.CO5	2	1				3	3	3			3	1	1	3