GANPAT UNIVERSITY

FACULTY OF ENGINEERING & TECHNOLOGY

Programme	Bachelor of Technology	Branch/Spec.	All
Semester	I & II	Version	1.0.0.0
Effective from Academic Year	2026-27	Effective from the batch admitted in	July 2026
Course Code	2IKS1101	Course Name	Bhartiya Knowledge System
Course Category	Bhartiya Knowledge System (IKS)		

Teaching Scheme						Examination scheme (Marks)			
(Per week)	Lecture (DT)		Practical (Lab.)		Total		CE	SEE	Total
	L	TU	P	TW					
Credit	2	0	0	0	2	Theory	50	50	100
Hours	2	0	0	0	2	Practical	0	0	0

Pre-requisites:

Nil (Open to all first-year UG students of all branches)

Course Outcomes

COs	Description
CO1	Describe the scope, foundational concepts, and holistic vision of Bharatiya Knowledge System and its relevance to NEP 2020.
CO2	Summarize key contributions of Indian civilization in philosophy, mathematics, astronomy, medicine, education, arts, and technology.
CO3	Relate traditional Bharatiya values such as Dharma, Purusharthas, and Vasudhaiva Kutumbakam to contemporary personal, professional, and societal contexts.
CO4	Identify ways to integrate insights from Bharatiya Knowledge System into engineering practice, sustainable development, and innovation.

Theory Syllabus

Unit	Content	Hours
1	Introduction to Bharatiya Knowledge System • Meaning, scope, and characteristics of Bharatiya Knowledge System (BKS). • Overview of sources of knowledge: Vedas, Upanishads, Itihasa, Puranas, Shastras, classical texts. • Bharatiya worldview: unity of material and spiritual, interconnectedness of life, holistic approach to knowledge. NEP 2020 emphasis on Indian heritage, value-based and multidisciplinary education; connection to NCrF and credits.	04
2	Darshanas and Knowledge Traditions • Introduction to the six Darshanas: Nyaya, Vaisheshika, Sankhya, Yoga, Mimamsa, Vedanta – core ideas relevant to logic, metaphysics, ethics. • Epistemology in Indian tradition: Pramanas (Pratyaksha, Anumana, Shabda, etc.). • Concept of Rta, Dharma, and cosmic order; Purusharthas (Dharma, Artha, Kama, Moksha). Application of these concepts to contemporary life, professional ethics, and decision making.	05
3	Bharatiya Contributions to Science and Technology • Mathematics: Sulbasutras, zero, decimal place value system, algebra, combinatorics (Pingala), contributions of Aryabhata, Brahmagupta, Bhaskara. • Astronomy: Surya Siddhanta, precise observations, calendars, eclipse prediction.	07

	• Ayurveda and health sciences: fundamental concepts (Tridosha, Panchamahabhuta), holistic health, Yoga and Patanjali's Yogasutras as science of mind and body. Metallurgy and material sciences: Iron pillar, wootz steel, traditional crafts and engineering marvels (temple architecture, water management systems).	
4	Education, Society, and Knowledge Institutions • Traditional education systems: Gurukul tradition, pathashalas, universities like Takshashila, Nalanda, Vikramashila. • Pedagogical features: personalized learning, character-building, integration of theory and practice, role of Guru–Shishya parampara. • Social institutions and practices promoting harmony, inclusion, and community living; position of women scholars and knowledge contributors. Parallels with NEP 2020: holistic, flexible, multidisciplinary and experiential learning.	06
5	Arts, Aesthetics, and Sustainable Living • Bharatiya performing arts: Natya, music, dance – Natya Shastra, Raga–Bhava–Rasa concepts. • Visual arts, architecture, sculpture, textiles, and crafts as embodiments of aesthetics, geometry, and sustainability. Traditional ecological knowledge: sacred groves, water harvesting, agriculture, food systems, festivals and rituals linked to environment and sustainability.	04
6	Contemporary Relevance and Applications • Values for 21st-century professionals: integrity, self-discipline, resilience, compassion, service, and leadership. • BKS perspectives on technology, innovation, and entrepreneurship (Jugaad, frugal innovation, Gandhian and other Indian models). • Case studies: application of traditional knowledge in modern medicine, agriculture, environmental conservation, and social innovation. Role of students in preserving, documenting, and reinterpreting Bharatiya Knowledge Systems; linkages with SDGs.	04

Practical and Self Learning Content
Practical and Term work shall be based on: • Field visits (temples, heritage sites, traditional craft centres, or local knowledge holders). • Short documentation/project on a chosen theme (e.g., traditional water management, local medicinal plants, folk art, or festivals). • Reflective journal on personal learning from BKS and its application to engineering/technology.

Text Books	
1	"Introduction to Indian Knowledge System: Concepts and Applications", AICTE/IKS Division, Ministry of Education.
2	"Indian Knowledge Systems" – Selected readings/compilation from IKS Division, MoE, and AICTE recommended material.
Reference Books	
1	V. N. Jha (ed.), "Lokayata and Other Essays in Indian Philosophy".
2	S. Radhakrishnan, "Indian Philosophy", Vol. I & II.
3	K. S. Shukla, "History of Indian Science, Technology and Culture".
4	R. C. Majumdar (ed.), "The History and Culture of the Indian People".
ICT/MOOCs Reference	
1	SWAYAM Course: "Indian Knowledge System" (IKS) – AICTE/MoE.
2	SWAYAM Course: "Essence of Indian Traditional Knowledge".
3	IKS Division, Ministry of Education – official portal resources.
4	AICTE IKS Cell resources and webinars.

Mapping of COs, POs, and PSOs														
COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
CO1	1	–	–	1	–	2	–	2	–	1	2	–	–	1
CO2	1	–	–	2	–	1	–	–	–	1	2	1	1	1
CO3	–	–	1	–	–	3	2	3	2	1	2	–	1	2
CO4	2	2	3	2	1	3	2	2	1	1	2	2	3	3

Bloom's Taxonomy Level				
Unit	**Unit Title**	**Aligned COs**	**Learning Hours**	**BTL Level**
1	Introduction to BKS	CO1	4 hrs	Remember, Understand
2	Darshanas & Knowledge Traditions	CO1, CO3	5 hrs	Understand, Apply
3	Contributions to Science & Technology	CO2, CO4	7 hrs	Understand, Apply
4	Education, Society & Institutions	CO1, CO3	6 hrs	Understand, Analyze
5	Arts, Aesthetics & Sustainability	CO2, CO3	4 hrs	Understand, Analyze
6	Contemporary Relevance & Applications	CO3, CO4	4 hrs	Apply, Analyze, Evaluate

Note:

- Version 1.0.0.0 (First Digit= New syllabus/Revision in Full Syllabus, Second Digit=Revision in Teaching Scheme, Third Digit=Revision in Exam Scheme, Forth Digit= Content Revision)
- 1 Hour Lecture = 1 Credit, 1 Hour Tutorial = 1 Credit, 2 Hours Practical = 1 Credit, 2 Hours Internship/Project/Seminar = 1 Credit
- Bloom's Taxonomy Level (BTL): R: Remember, U: Understand, A: Apply, N: Analyze, E: Evaluate, and C: Create