

Semester – V

.5.3 Indian Knowledge Systems (IKS)

Course Title	Indian Knowledge Systems and Ethical Practices in IT
Course Credits	2 Credits
Course Outcomes	1. Explain the foundational principles of Indian Knowledge Systems (IKS) such as <i>Dharma</i> (duty), <i>Karma</i> (action), and <i>Pramana</i> (means of valid knowledge), and relate these to ethical reasoning in computing and technology. 2. Analyze ethical challenges in IT and computing (e.g., data privacy, algorithmic bias, and digital governance) using traditional Indian ethical concepts such as <i>Lokasangraha</i> (welfare of society) and <i>Ahimsa</i> (non-violence). 3. Apply Indian moral values and ethical frameworks to formulate responsible technology practices that promote societal well-being, fairness, and accountability in IT projects. 4. Evaluate contemporary technology issues (e.g., AI ethics, cybersecurity policies, user privacy) in light of constitutional, cultural, and moral values emphasized by Indian ethical traditions. 5. Design guidelines and strategies for ethical decision-making in IT organizations that reflect both global standards (e.g., fairness, transparency) and Indian philosophical insights about duty and societal harmony.
Module 1 (Credit 1) Foundations of Indian Knowledge Systems (IKS) <i>(Philosophical and cultural roots of Indian knowledge)</i>	
Learning Outcomes	1. Students understand Indian philosophical values and their relevance to ethical thinking in IT.

Module 2 (Credit 1) Indian Contributions to Science, Mathematics & Computing <i>(India's legacy in scientific and logical thinking)</i>	
Learning Outcomes	1. Students appreciate India's intellectual heritage and its influence on modern computing concepts.
Course Outline	• Ancient Indian Mathematics • Zero, decimal system, place value • Contributions of Aryabhata, Brahmagupta, Bhaskaracharya • Indian Logic and Algorithms • Nyaya and Vaisheshika schools • Algorithmic thinking in ancient texts • Astronomy & Timekeeping • Indian calendars, eclipses, planetary motion • Linguistics & Computing • Panini's grammar as a precursor to formal Languages • Sanskrit and structured programming logic • Traditional Engineering & Technology • Metallurgy (Iron Pillar of Delhi) • Water management systems

Suggested Pedagogy

- Case-study based learning
- Group discussions & debates
- Reflection essays
- Guest lectures from ethics / IKS experts

External Assessment: (Marks 50)

End Semester examination of 50 marks for 2 hours duration will be conducted by the college.