



A Review of the UGC Guidelines for integrating IKS in the higher education curricula

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Abstract

In India, the National Education Policy (NEP) 2020 laid the philosophical groundwork for this transition by shining a spotlight on the rich heritage of the Indian Knowledge System (IKS). The University Grants Commission (UGC) released a detailed framework in March 2023, designed to systematically weave IKS into undergraduate and postgraduate curricula across the country. This manuscript provides a thoughtful review of these guidelines from a pedagogical lens. It explores the conceptual foundations of IKS, the mandated credit structures, and the proposed instructional strategies. Furthermore, it offers an in-depth review of the suggested model curricula—ranging from foundational IKS, mathematics, and astronomy to health sciences, agriculture, architecture, fine arts, metallurgy, and polity. By critically evaluating these parameters, this paper identifies real-world implementation challenges, particularly the crucial need for robust curriculum development, the training of future educators, and the delicate harmonization of classical Indian epistemologies with contemporary science pedagogy.

Keywords: Indian Knowledge System (IKS), Higher Education, National Education Policy 2020 (NEP 2020), University Grants Commission (UGC), Curriculum Design, Science Pedagogy.

Introduction

The landscape of higher education is undergoing a much-needed transformation. For decades, our curricula have largely mirrored Western pedagogical frameworks, often leaving our own rich intellectual heritage on the sidelines. The National Education Policy (NEP) 2020 sparked a crucial conversation about changing this narrative, emphasizing the need to root our teaching and learning in the Indian ethos. March 2023,



the University Grants Commission (UGC) stepped up to the plate, releasing a foundational blueprint aimed at seamlessly integrating the Indian Knowledge System (IKS) into our colleges and universities. This isn't just about adding a new subject to the syllabus but it is about fundamentally rethinking how we approach knowledge. The primary goal of these guidelines is to bring the systematic study, preservation, and modern application of ancient Indian disciplines into our everyday classrooms. This manuscript delves into the heart of the UGC guidelines, unpacking the credit requirements, the structural changes required, and the extensive model curricula proposed. By taking a closer look at these parameters, we can better understand how to navigate this exciting transition toward an educational paradigm that feels culturally authentic yet entirely relevant to the global stage.

Indian Knowledge System: Concept and Context

When we talk about the "Indian Knowledge System," we are referring to an incredibly vast, systematized corpus of disciplines that were developed over a millennia. It is a tapestry woven from classical, text-based sciences, as well as the vibrant oral histories, sustainable practices, and localized knowledge preserved by countless communities, including our tribal populations, across generations. At its core, IKS is driven by the timeless pursuit of knowledge (Jñāna), wisdom (Prajñā), and truth (Satya). The guidelines rightfully remind us that this continuous intellectual journey was spearheaded by brilliant polymaths—figures like Charaka, Susruta, Aryabhata, Varahamihira, Bhaskaracharya, Brahmagupta, Chanakya, Panini, and Patanjali. Their groundbreaking work spans fields as diverse as mathematics, astronomy, metallurgy, medicine, civil engineering, and the fine arts. What stands out to anyone passionate about science pedagogy is the methodology behind this knowledge. It is characterized by deep systematization (Śāstra), clear objectives, and rigorous means of valid knowledge (Pramāṇas) such as perception (Pratyakṣa), inference (Anumāna), and textual tradition (Āgama). Classical frameworks, like the Nyāya system of Indian logic, offer profound tools for critical thinking and reasoning that are incredibly relevant in our age of misinformation.



Need for IKS in Higher Education under NEP 2020

The push to bring IKS into higher education is a direct and vital mandate from the NEP 2020. The policy envisions India's intellectual heritage not as artifacts in a museum, but as a living, breathing guiding light for the future of education. Our rich legacy needs to be nurtured, deeply researched, and practically applied in our modern world. The UGC guidelines make a compelling case: since our recognized academic institutions are responsible for shaping the minds of millions of undergraduate and postgraduate students, they are the very bedrock of our nation's future. Therefore, if we are to realize the vision of NEP 2020, these institutions must be the ones to champion IKS.

UGC Framework for Curriculum Integration

To make this vision a reality across such a diverse educational landscape, the UGC has laid out a clear, overarching framework. They wisely acknowledge that you can't just mandate a one-size-fits-all syllabus for every program. Instead, they've offered a 10-year visionary roadmap, which includes built-in check-ins for review and modification after the first five years. The most significant structural rule here is that every student, whether in a UG or PG program, should be encouraged to take credit courses in IKS. Specifically, these IKS courses must make up at least five percent of the student's total mandated credits for their degree. Even more importantly, to make sure this learning is actually relevant, at least 50% of those IKS credits need to be directly tied to the student's major discipline. When it comes to the medium of instruction, the UGC has been quite flexible. IKS courses can be taught in English, Sanskrit, or any approved Indian language. However, there is a thoughtful linguistic rule: if a course is taught in English, all technical terms and citations from Sanskrit sources must be presented in both the Devanagari script and English transliteration. This is a beautiful way to ensure that the phonetic and cultural essence of the original texts isn't lost in translation.



Curriculum Design and Credit Recommendations

Designing curricula is always a delicate balancing act, and the UGC has provided tailored recommendations depending on the level of study:

- **Undergraduate (UG) Programmes:** For students in four-year UG programs, the sweet spot is to complete their mandated 5% IKS credits within the first four semesters. Half of these should relate to their major, while the rest can serve as multidisciplinary electives. Every UG student is required to take a Foundational Course to ground them in the basics. For medical students, there's a specific directive to take a first-year course on Indian Systems of Medicine (like Ayurveda and Yoga), with optional deep dives in their second year. Practical experiences, like internships and final-year projects related to IKS, are heavily encouraged.

- **Postgraduate (PG) Programmes:** PG students aren't left out they too must allocate at least five percent of their credits to advanced IKS courses that resonate with their specialization.

- **Sanskrit and Indian Language Universities:** These institutions have a unique mandate to evolve into comprehensive Universities of Indian Knowledge System. Their students will tackle a two-semester Foundational Course, a Multidisciplinary Course connecting traditional knowledge to contemporary disciplines, and specialized training in Manuscriptology and Critical Editing.

- **PG Programmes in IKS Disciplines:** A vital pedagogical shift is required here. Existing PG courses in Indian music, philosophy, or medicine need to be redesigned so they are genuinely anchored in Indian epistemologies, rather than relying exclusively on Western methodologies. Graduates of these programs will even take specialized National Eligibility Test (NET) examinations tailored to their specific IKS fields.

Implementation Strategies

To ensure a smooth rollout, the UGC document outlines a very practical, ten-point strategy:

1. **Active Promotion:** Universities need to actively champion IKS courses.



2. Philosophical Grounding: Students need to understand the common philosophical threads that tie various IKS disciplines together.
3. Faculty Orientation: We cannot expect teachers to teach what they don't know. Faculty must receive introductory training on fundamental IKS vocabulary.
4. Engaging with Primary Texts: There must be a strong emphasis on getting students and educators comfortable with reading and analyzing primary texts.
5. Resource Accessibility: Educators need ready access to authentic materials developed by subject experts.
6. Regional Languages: A compiled list of IKS content in regional languages should be provided, making the knowledge more accessible.
7. Role Models: Highlighting contemporary scholars who actively use IKS can deeply inspire both teachers and students.
8. Oral Traditions: Bringing ancient techniques of memorization into practical sessions adds a wonderful, experiential layer to learning.
9. Experiential Learning: Hosting immersive sessions in Yoga, Ayurveda, Classical Music, and Craft traditions allows students to experience IKS, rather than just reading about it.
10. Teacher Training Integration: Perhaps most importantly from a pedagogical standpoint, curriculum development must go hand-in-hand with specialized teacher training.

Review of the Model Curriculum

To help institutions get started, the UGC appendix provides beautifully detailed outlines for model curricula. Let's take a look at a few core areas.

Foundational IKS

This course sets the stage, exploring the geographical and historical context of Bharatavarsha. It introduces students to foundational texts like the Vedas, Ramayana, Mahabharata, and the Puranas. It walks them through the Vedangas and the fascinating Indian Language Sciences, noting how sounds (varnamala) were scientifically classified based on human vocal effort. It also delves into the purpose of knowledge,



distinguishing between Para Vidya (higher spiritual knowledge) and Apra Vidya (worldly sciences), while emphasizing concepts like cosmic order (Ṛta) and sharing (Yajña).

Indian Mathematics

This is a thrilling module that traces mathematical development from the Vedic period through to the modern era. It highlights the deeply algorithmic nature of Indian mathematics. Students explore early geometry in the Śulba Sūtras (including the famous Bodhāyana theorem), the evolution of the decimal place-value system, and Pāṇini's brilliant grammatical algorithms. It covers heavyweights like Āryabhaṭa, Brahmagupta, and Bhāskarācārya. Crucially, it shines a light on the Kerala School of Astronomy's pioneering work on calculus and infinite series, wrapping up with the modern genius of Srinivasa Ramanujan.

Indian Astronomy

Jyotiḥśāstra is approached through foundational, computational, and observational lenses. The curriculum covers the mechanics of the Indian calendar (Pañcāṅga), complex planetary computations, the precession of equinoxes, and eclipse calculations. It also brings the history alive by detailing the use of traditional astronomical instruments like the Śaṅku (gnomon) and highlighting the 18th-century observational achievements of figures like Savai Jayasimha.

Health Sciences

This module introduces the holistic Vedic foundations of Ayurveda, focusing equally on wellness and disease treatment. It covers fundamental physiological concepts like the Guṇas, Doṣhas, and the elements, alongside daily and seasonal regimens. Fascinatingly, it includes extracts from texts like the Suśruta-Saṃhitā, detailing ancient practices in plastic and cataract surgery.

Agriculture

Agriculture is framed as the historical backbone of the economy, exploring ancient irrigation systems and pre-modern productivity. It explores major ancient water-bodies and the complex tank irrigation systems of South India.



Architecture

This discipline explores the principles of Sthapatya-veda, moving from Indus Valley town planning to magnificent temple designs. It explores the cultural rationale behind public opulence paired with private austerity.

Fine Arts

This elective delves into the Nāṭyaśāstra, exploring the harmonization of theory and practice in music, dance, and traditional painting.

Metallurgy

This module showcases India's enduring expertise in metalworking, including high-quality iron, zinc, and steel production that fascinated European observers well into the 19th century.

Polity and Economy

This introduces the traditional duties of leadership, the concept of Varta (economic activity encompassing agriculture and trade), and the village as the resilient center of civic life.

Critical Evaluation of the Guidelines

Looking at these guidelines through the lens of curriculum design, they are incredibly ambitious, culturally affirming, and impressively detailed. By establishing a 5% credit floor, the UGC ensures that IKS isn't just an elective afterthought, but a core component of the academic journey. The rule that 50% of these credits must align with a student's major is a stroke of pedagogical brilliance—it ensures that a mathematics student engages with ancient algorithms, while a medical student learns from traditional health sciences, making the learning deeply contextual. However, the framework does lean heavily on highly localized epistemological frameworks. While concepts like Pramāṇas and Śāstras are brilliant, integrating them smoothly alongside modern, globally standardized scientific methods will require immense care to avoid causing cognitive dissonance for the students. Additionally, while mandating the use of the Devanagari script for technical terms is a wonderful step



for linguistic preservation, it will definitely present a steep learning curve for those unfamiliar with the script.

Challenges and Future Directions

Bringing this vision into the classroom will require us to overcome some very real systemic hurdles. The most pressing challenge is, undoubtedly, faculty readiness. As educators, we need to be trained before we can teach. We will need robust orientations, vocabulary training, and easy access to authentic primary sources. Developing standardized, peer-reviewed textbooks that can accurately and engagingly translate ancient texts into modern academic English and regional languages is going to be a monumental task.

Furthermore, we must be vigilant in avoiding historical revisionism. The guidelines rightly demand that course materials be based on authentic sources, historical accounts, and material evidence. Maintaining this rigorous standard is essential for academic credibility. Looking ahead, we need to invest heavily in teacher training programs, particularly within frameworks like B.Ed. and M.Ed., to prepare the next generation of educators. Establishing dedicated IKS research centers and fostering international academic collaborations will also be vital in validating and contemporizing our traditional knowledge.

Conclusion

The UGC guidelines for incorporating the Indian Knowledge System into higher education curricula represent a monumental and inspiring step toward decolonizing our educational framework. By laying out a clear credit system, emphasizing authentic primary texts, and offering wonderfully detailed model curricula, the UGC has given institutions a solid, workable scaffolding. While the road ahead, filled with challenges around faculty training, resource creation, and epistemological integration will be demanding, the proactive implementation of these guidelines is incredibly promising. It offers us the chance to nurture a generation of learners who are not only globally competent but also deeply and proudly rooted in their own rich cultural and intellectual heritage.



References

- University Grants Commission. (2023). Guidelines For Incorporating Indian Knowledge in Higher Education Curricula. New Delhi, India: Secretary, University Grants Commission.

