



Course Outline for Entrance Exam
Ph.D. in Indian Knowledge Systems (IKS)

Unit 1: Foundations of Indian Knowledge Systems

- Importance of IKS
 - o Definition of IKS
 - o Importance of studying Ancient Knowledge
 - o Historicity of IKS
- Historical Foundations of IKS Key Periods and Texts
 - o Vedas, Vedangas, Darsanas, Puranas, Itihasas, Dharma Sastras and Smritis, Caturdasa Vidyasthana, Oral and Written Traditions
 - o Applied Sciences, Engineering, Technology, Architecture, Health, Wellness, Psychology, Administration, Ethics
- Contemporary Relevance and Applications of IKS
 - o IKS and its relation with natural sciences, social sciences, archaeology, literature and Mathematics

Suggested Readings:

1. Lal, B.B. (1997). *The Earliest Civilization of South Asia*, Aryan Books International, New Delhi.
2. Rao, S.S. (2006). "Indigenous Knowledge Organization: An Indian Scenario", *International Journal of Information Management*, 26, pp. 224-233.
3. MAHADEVAN, B. and BHAT, V.R. and N, N.P.R. (2022). *Introduction to Indian Knowledge System: Concepts and Application*, PHI Learning Pvt Ltd, New Delhi.

Unit 2: Indian Philosophical Systems

- āstika and nāstika Philosophical Systems
 - o The Vedic School: Samkhya, Yoga, Nyaya, Vaisesika, Mimansa, Vedanta
 - o The Non-Vedic School: Carvaka, Jaina, Bauddha
- Vedānta, Nyāya, and Vaiśeṣika
 - o Ishwara, Universe and the Self
 - o Liberation of the Self
 - o Vidya and Avidya
 - o Karma kanda and Jnana Kanda
 - o Purva Mimansa and Uttar Mimansa
 - o Advaita, Visistadvaita, D
- Sāṃkhya and Yoga Systems
 - o Purusa and Prakriti
 - o Mahat, Ahamkara – Manas, Jnanendriyas, Karmendriyas, Tanmatras, Five Elements
 - o Yama, Niyama, Asana, Pranayama, Pratyahara, Dharana, Dhayana, Samadhi

Suggested Readings

1. Bose, R.C. (1884). *The Hindu Philosophy: Orthodox Systems*, Funk & Wagnalls, London.
2. Dasgupta, S. (1975). *A History of Indian Philosophy – Volume I*, Motilal Banarsidas, New Delhi.
3. Hiriyanna, M. (1994). *Outlines of Indian Philosophy*, Motilal Banarsidas, New Delhi.
4. Puligandla, R. (2005). *Fundamentals of Indian Philosophy*, DK Print World, New Delhi
5. Sharma, C.A. (1964). *Critical Survey of Indian Philosophy*. Motilal Banarsidas, New Delhi.

Unit 3: Ancient Indian Sciences

- Contributions to Mathematics and Astronomy
 - o Great Indian Mathematicians and their Contributions
 - o Arithmetic- squares, cubes, roots, series and progressions
 - o Geometry – Right angles triangle and Sulba Sutra, Value of Pi
 - o Trigonometry/jyotpatti – R sines and formulae for calculating R Sine differences
 - o Algebra
 - o Binary Mathematics, Combinational Problems, Chandah Sastra of Pingala, Magic Squares
 - o Unique Aspects of Indian Astronomy
 - o Rasi, Naksatra, Pancanga
 - o Historical Development of Astronomy in India
 - o Elements of Indian Calendar and the idea of Year, Masa and Tithi, Yuga, Uttarayana, Dakshinayana, etc.
 - o Astronomical Instruments (Yantra)- Gnomon, Armillary Sphere, Nadivalaya yantra, Gola yantra, Cakra yantra, etc.
- Ancient Indian Medicine: Principles of Ayurveda
 - o Definitions of Ayurveda and Health
 - o Physical and Psychological aspects of Health
 - o Manas, buddhi, citta, ahamkara
 - o Tri dosas- Vata, pitta, kapha
 - o Imbalance of Dhatus and their effects
 - o Disease management and diagnostic techniques
 - o Disorders due to food and sleep

- o Drugs and Therapy
- o sadvrittani
- o Psychological wellbeing
- o Tri gunas – attributes and effects
- o The pancakosa and the four states of existence (jagrat, Svapna, susupti, turiya)
- Technological Innovations in Ancient India
 - o The history of science and technology in India
 - o Ores and Mining
 - o Different Metals and their extraction processes (gold, copper, zinc, iron, mercury, etc)
 - o Copper and Ayurveda
 - o Alloys
 - o Steel manufacturing
 - o Wax casting
 - o Yantras used for extraction of metals
 - o Surgical Techniques
 - o Ship building

Suggested Readings:

1. Datta, B. and Singh, A.N. (1962). *History of Hindu Mathematics: Parts I and II*, Asia Publishing House, Mumbai.
2. Divakaran, P.P. (2018). *The Mathematics of India: Concepts, Methods, Connections*, Springer (Hindustan Book Agency), New Delhi.
3. Srinivasiengar, C.N. (1988). *The History of Ancient Indian Mathematics*, The World Press, Kolkata.

4. Mishra, L.C. (2004), *Scientific Basis for Ayurvedic Therapies*, CRC Press LLC, Washington D.C.
5. Kuppaswami, B. (1985), *Elements of Ancient Indian Psychology*, Vikas Publishing House, New Delhi.
6. Dash B. and Kashya, D. (1981). *Diagnosis and Treatment of Diseases in Ayurveda etc.*, Pt. I, New Delhi.
7. Lakshmi pathi, A. (1959). *Ayurvedic Encyclopedia*, Madras.
8. Subbarayappa, B.V. and Sarma, K.V. (1985). *Indian Astronomy: A Source Book*, Nehru Centre, Mumbai.
9. Bag, A.K. (1997). *History of Technology in India*, Vol I, Indian National Science Academy, New Delhi.
10. Bose, D.M, Sen, S.N. and Subbarayappa, B.V. (2009). *A Concise History of Science in India*, Universities Press, 2nd ed., Hyderabad.

Unit 4: Sanskrit and Indian Languages

- Structure, Phonetics, and Grammar of Sanskrit
 - o Linguistic components of a language
 - o Panini and his Ashtadhyayi
 - o Phonetics, Morphology, syntax and semantics in Sanskrit
 - o Verbs and sentence construction
- Linguistic Diversity in India
 - o India's rich linguistic heritage
 - o Classical languages of India
 - o Philosophy of Language
- Role of Sanskrit in Knowledge Preservation

- o Patterns in Sanskrit Vocabulary
- o Ashtadhyayi and Computation
- o Sanskrit as the language of knowledge creation and preservation

Suggested Readings:

1. Dalai, B.K. (2007). *Studies in Indian Linguistics*, Bharatiya Kala Prakashan, Delhi.
2. Kak, S, Bhate, S. (1993). “Panini’s Grammae and Computer Science”, Annals of Bhandarkar Oriental Research Institute, Pune.
3. Huet, G., Kulkarni, A. and Scharf, P. (2009). *Sanskrit Computational Linguistics*. Springer.
4. Sampad and Vijay (2011). *The Wonder that is Sanskrit*, Sri Aurobindo Society, Puducherry.

Unit 5: Indian Literature

- Overview of Vedic, Epic, and Classical Literature
 - o Introduction to Vedas
 - o The four divisions of each Veda- Samhita, Brahmana, Aranyaka and Upanisads
 - o Vedangas – Siksa, Vyakarna, Nirukta, chandas, kalpa, jyotisa
 - o Agnihotra and Panch-maha-yajna
 - o Vedic lifestyle
 - o Epics and Itihasa tradition – Ramayana, Mahabharata
 - o Puranas – Mahapuranas, Upapuranas and Sthala puranas
 - o Niti sastras
 - o Shubhasitas

Suggested Readings:

1. Dixit, V.V. (1950). *Relation of the Epics to the Brahmana Literature*, Poona.

2. Hopkins, E.W. (1901). *The Great Epics of India*, New York.
3. Pusalkar, A.D. (1955). *Studies in the Epics and Puranas*, Bombay.
4. Vaidya, C.V. (1930). *History of Sanskrit Literature*, Arya Bhushan Press, Poona.

Unit 6: Sacred Texts of Bharat

- Understanding the Vedas and Upanishads
 - o Rig Veda, Yajurveda, Samaveda, Atharvaveda
 - o The deities and their symbolism
 - o The message in the Vedas
 - o The primary Upanishads and secondary Upanishads
 - o Brahman
- Insights into the Bhagavad Gita
 - o The text and context of the Gita
 - o Sankhya and Yoga
 - o Nistreyaguna
 - o Karma yoga, jnana yoga, bhakti yoga
 - o The ultimate message of the Gita
- Introduction to Tantra and its Texts
 - o The Agama literature
 - o Kashmir Shaivism
 - o Chakras and their purification
 - o Kundalini
 - o Tibetan traditions

- o Buddhist Mahayana traditions

Suggested Readings:

1. Joshi, K. (2003). *Veda and Indian Culture*, Motilal Banarsidass, New Delhi
2. Sri Aurobindo (2002). *The Renaissance In India And Other Essays On Indian Culture*, Sri Aurobindo Ashram Publication, Pondicherry.
3. Woodroffe, John. (2004). *Introduction to Tantra Sastra*, Ganesh & Co, Madras.

Unit 7: The Rishi Tradition of Bharat

- An Introduction to the Rishi Tradition
 - o Who is a Rishi?
 - o Kinds of Rishis – srutarsi, kandarsi, taparsi, satyarsi, Devarsi, paramarsi, brahmarsi, rajarsi, janarsi.
- Lives and Teachings of Prominent Rishis
 - o The first Rishis – Sanaka, Sanatkumara, Sanandana, Sanatana
 - o The Saptarishis
 - o The women rishis
 - o The history of Rishi tradition
 - o The modern Rishis – Swami Vivekananda, Sri Aurobindo, Ganapati Muni, etc.
- Impact of the Rishi Tradition on Indian Culture

Suggested Readings:

1. Mishra, S. (2022). *The Rishi Tradition of Bharat*, Subbu Publications, Karnataka.
2. Mani, V. (1975). *Puranic Encyclopedia: A Comprehensive Dictionary with Special Reference to the Epic and Puranic Literature*, Motilal Banarsidas, New Delhi
3. Pandey, C.B. (1987). *Risis in Ancient India*, East India Book CO.

Unit 8: Indian Architecture and Art

- History of Indian Architecture
- Principles of Vāstu Śāstra
 - o Town Planning, Civil Architecture, Temple Architecture, Artistic Creations
 - o Kasyapa silpa, Narada silpa sastra, Visvakarma Prakasa, Manasara, Mayamatam, Samrangana Sutradhara, Manusyalaya Candrika
 - o Vastu Purusa Mandala and types of division of the site
 - o Eight limbs of Vastu- Yajamana, Sthapatya, Silpin, Bhumi, Vastospati, Padavinyasa, Vastu, Alankarana
- Traditional Indian Architectural Styles
 - o Town planning, road construction, Residential Buildings, Royal palaces, sabha, temple architecture
- Rich Heritage of Indian Music and Dance
 - o The 64 arts
 - o Indian classical dance forms – Bharatanatyam, Manipuri, Kathak, Odissi, Kathakali, Mohiniattam, Kuchipudi, Sattriya, Chhau
 - o Carnatic music, Thumri, Hindustani music, Dhrupad, Khyal, Chaiti, Ghazal, Indian pop, Tappa, Qawwali, Bhangra, Folk music, Bengali, Bhajan, Dadra, Dandiya, Kajari, Kalbelia, Raga, Tarana, etc
 - o Foundational texts on music and dance- Naradiya Siksa, Kamasutra, Vinatantra, Yamala tantra, Jatakas, Sangita Ratnakara,
- Iconography and Symbolism in Indian Art
 - o Hindu Iconography
 - o Natyasastra

Suggested Readings:

1. Acarya, P.K. (1996). *Indian Architecture*, Munshiram Manoharlal Publishers, New Delhi.
2. Altekar, R.V. (2010). *Vaastusastra: Ancient Indian Architecture and Civil Engineering*, DK Printworld, New Delhi.
3. Banerji, S.C. (1976). *Fundamentals of Ancient Indian Music and Dance*, Ahmedabad.
4. Gautam, M.R. (1980). *Musical Heritage of India*, New Delhi.
5. Vatsyayana, K. (1969). *Classical Indian Dance in Literature and Arts*.

Unit 9: Yoga, Spirituality and Well-being

- Yoga Tradition: Significance and Branches
- Therapeutic Applications of Yoga
- Integrating Yoga into Modern Health Practices

Suggested Readings:

1. Adhia, H., Nagendra H.R. and Mahadevan, B. (2010). “Impact of Adoption of Yoga Way of Life on the Reduction of Job Burnout of Managers” IIMB Management Review. 22, pp. 32-41.
2. Vivekananda, S. (2019). *Patanjali’s Yoga Sutras*, Fingerprint Publishing.
3. Vivekananda, S. (2018). *Meditation and Its Methods*.

Unit 10: Leadership, Governance, and Integral Humanism

- Major Indian texts on Rajadharma – Mahabharata, Manu smriti, Arthashastra, Nitisara, Abhilasitartha cintamani, Rajaniti Ratnakara, Dandaniti, Vidura niti
- Arthasāstra: Insights into Governance and Public Administration
 - o Four branches of knowledge – Trayi, Anviksiki, Varta, Dandaniti
 - o The Kautilyan State – Swamin, Amatya, Janapada, Durga, Kosa, Danda, Mitra

- o The king and his duties
- o The Administrative set up – Kind, Palace Administration, Defence, Treasury, Revenue, Law and Order, Civil Administration
- o Foreign Policy – Sandhi, vighraha, Asana, Yana, samsraya, dvaidhibhava
- Integral Humanism and Its Contemporary Relevance
 - o Pt. Deen Dayal Upadhyaya's life and works
 - o The four lectures
 - o Chiti, antyodaya, constitutionalism, dharma, Rashtra, samaja, etc.
 - o Comparative study between Integral Humanism and other theories like capitalism, socialism, Marxism, cultural materialism, etc.
 - o Policies based on concepts from Integral Humanism

Suggested Readings:

1. Banerjea, P. (1916). *Public Administration in Ancient India*, Macmillan, London.
2. Kangle, R.P. (1972). *The Kautilya Arthashastra (Part I and II)*, Motilal Banarsidas, New Delhi.
3. Sharma, M.C. (2019). *The Complete Works of Deendayal Upadhyaya (Volume 1 to 15)*, Prabhat Prakashan, New Delhi.