



B.Sc. Semester (I) IKS

Course Code	US1IKBSC01	Title of the Course	Contribution of ancient Indian knowledge in modern medicine
Total Credits of the Course	2	Hours per Week	2

Course Objectives:	<ul style="list-style-type: none">• To understand the role and importance of ancient knowledge in science & technology• To motivate the students to take up a detailed study of science & technology and explore their potential application• To understand IKS approach to Healthcare, Medicine, Microbiology, Surgery, and Yoga etc.
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Course Content		
Unit	Description	Weightage* (%)
1.	Science & technology in ancient India: Introduction and importance of IKS, Contribution of ancient Indian scientist in science and technology, Concept of Matter, Life and Universe, Gravity, Sage Agastya's Model of Battery, Laboratory and Apparatus, Dyes, Paints and Metallurgy, Velocity of Light, Vimāna: Aeronautics, Vedic Cosmology and Modern Concepts, History and Culture of Astronomy, Sun, Earth, Moon, and Eclipses, Earth is Spherical and Rotation of Earth, Archaeoastronomy; Concepts of Zero and Pi, Number System, Pythagoras Theorem, and Vedic Mathematics,	50
2.	Importance of IKS in life science: Ethnic Studies, Life Science in Plants, Anatomy, Physiology, Agriculture, Ecology and Environment, Āyurveda, Integrated Approach to Healthcare, Medicine, Microbiology, Surgery, and Yoga, etc.	50

Teaching-Learning Methodology	Classroom teaching and learning
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Evaluation Pattern		
Sr. No.	Details of the Evaluation	Weightage
1.	Internal Written (As per CBCS R.6.8.3)	-





2.	Internal Continuous Assessment in the form of Practical, Viva-voce, Quizzes, Seminars, Assignments, Attendance (As per CBCS R.6.8.3)	-
3.	University Examination	100%

Course Outcomes: Having completed this course, the learner will be able to

1.	Learn importance of ancient bhartiya scientific knowledge and its utility in current scenario.
2.	Understand the significance of study of science & technology and their potential application
3.	Uncover and explore the richness and diversity of IKS in science & technology
4.	Correlate and get aware about the ancient way of living that help in present time.

Suggested References:

Sr.No.	References
1.	An Introduction to Indian Knowledge Systems: Concepts and Applications, B Mahadevan, V R Bhat, and Nagendra Pavana R N; 2022 (Prentice Hall of India).
2.	Indian Knowledge Systems: Vol I and II, Kapil Kapoor and A K Singh; 2005 (D.K. Print World Ltd).
3.	Vedic Science and Technology, Biswal Sadasiva; 2009 (D.K. Printworld (P) Ltd)
4.	Ancient Indian Science and its Relevance to the Modern World, Prof. K.E. Govindan; 2009 (ashtriya Sanskrit Vidyapeetha)
5.	Vedic Science and History - Ancient Indian's Contribution to the Modern World, Swami B.B. Vishnu; 2018
5.	Science and Technology in Ancient Indian Texts, Various Authors
6.	Pride of India- A Glimpse of India's Scientific Heritage edited by Pradeep Kohle et al. Samskrit Bharati; 2006
7.	Ancient Indian Sciences, Swami Chidatman Jee Maharaj
8.	Ancient Indian Scientific Thought and Modern Theories, Sanjit Kumar Sadhukhan





	Dhirendranath Banerjee; 2019
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On-line resources to be used if available as reference material
On-line Resources
https://swayam.gov.in/explorer?searchText=iks
https://iksindia.org/book-list.php





Add on Certificate Course on Arthaveda

B.Sc. Sem. 1

Course Code	US1IKBSC02	Title of the Course	Arthaveda
Total Credits of the Course	2	Total Hours per week	2

Course Objectives:	<p>The course will enable the learners to.....</p> <ul style="list-style-type: none">• Identify the Arthaveda as a Vedic text and its significance in ancient Indian society.• Explain the socio-economic context of ancient India.• Describe the different economic systems prevalent in ancient India.• Discuss the ethical and moral aspects of economic activities in Arthaveda.• Explain the trade routes and networks in ancient India.• Analyze how the principles and concepts of Arthaveda can be applied to real-world economic situations.• Evaluate the effectiveness of different economic systems in meeting the needs of ancient Indian society.• Construct connections between Arthaveda's teachings and contemporary economic theories.
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Course Content

Unit	Description	Weightage* (%)
1	<p>Introduction to Arthaveda and Ancient Indian Economic Thought</p> <ul style="list-style-type: none">• Overview of Arthaveda as a Vedic text and its significance in ancient Indian society• Understanding the socio-economic context of ancient India• Exploration of the key principles and concepts of Arthaveda• Study of the different economic systems prevalent in ancient India, such as agricultural, trading, and guild-based systems• Examination of the ethical and moral aspects of economic activities in Arthaveda• Discussion of concepts such as wealth (Artha), righteous conduct (Dharma), and social welfare (Sarvodaya)	50%



2	<p>Trade and Commerce in Ancient India</p> <ul style="list-style-type: none">• Exploration of the trade routes and networks in ancient India• Study of commercial practices, including barter, coinage, and banking systems• Analysis of the impact of trade on economic development and cultural exchange• Examination of the principles and practices of economic governance in ancient India• Analysis of economic policies, including taxation, regulation, and wealth distribution• Discussion on the role of kings, councils, and administrative bodies in economic decision-making	50%
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Teaching-Learning Methodology	Lecture-cum-discussion, Group Discussion, Presentations, Seminars, tutorials, Research Exercises
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Evaluation Pattern		
Sr. No.	Details of the Evaluation	Weightage
1.	Internal Written / Practical Examination Internal Continuous Assessment in the form of Practical, Vivavoce, Quizzes, Seminars, Assignments, Attendance	30%
2.	University Examination	70%

Course Outcomes: Having completed this course, the learner will be able to	
1.	Demonstrate a comprehensive understanding of the Arthaveda as a Vedic text and its significance in ancient Indian society.
2.	Analyze the socio-economic context of ancient India and its impact on economic thought, highlighting key factors and influences.
3.	Evaluate the principles and concepts of Arthaveda and their relevance to economic activities, considering ethical and moral aspects.
4.	Compare and contrast the different economic systems prevalent in ancient India, including agricultural, trading, and guild-based systems, and assess their functioning and effectiveness.
5.	Examine the trade routes and networks in ancient India, analyzing their impact on



	economic development and cultural exchange.
6.	Critically analyze the principles and practices of economic governance in ancient India, including taxation, regulation, and wealth distribution.
7.	Evaluate the roles of kings, councils, and administrative bodies in ancient India and their influence on economic decision-making processes.

Suggested References:

- Chanakya. (n.d.). Arthashastra.
- Roy, T. (2011). The Economic History of India: Ancient to Present. Cambridge University Press.
- Deshpande, S., & Patnaik, U. (Eds.). (2011). Indian Economic Thought: Ancient to Modern. Routledge.
- Mukund, K. (1999). The Trading World of the Tamil Merchant: Evolution of Merchant Capitalism in the Coromandel. Orient Blackswan.
- Basu, R. L., & Sen, R. K. (2015). Ancient Indian Economic Thought, Relevance for Today. SAGE Publications.
- Chakravarti, R. (2001). Trade and Traders in Early Indian Society. Manohar Publishers.
- Chakravarti, U. (2014). Money and Credit in Indian History: From Early Medieval Times. Primus Books.
- Mookerji, R. (1988). Ancient Indian Commerce: Commercial Relations of India in the Middle East. Motilal Banarsidass.

Online Resources :

- JSTOR. (n.d.). Retrieved from <https://www.jstor.org>
- Project MUSE. (n.d.). Retrieved from <https://muse.jhu.edu>
- Ancient History Encyclopedia. (n.d.). Retrieved from <https://www.ancient.eu>
- Indian Historical Quarterly. (n.d.). Retrieved from <https://www.jstor.org/journal/indihistquar>
- Digital Library of India. (n.d.). Retrieved from <https://www.dli.gov.in>
- The Economic and Political Weekly. (n.d.). Retrieved from <https://www.epw.in>



**Add on Certificate Course on Astrology
B.Sc. Sem. 1**

Course Code	US1IKBSC03	Title of the Course	Astrology
Total Credits of the Course	2	Total Hours per week	2

Course Objectives:	<p>The course will enable the learners to.....</p> <ul style="list-style-type: none">• Explain the Use of Astrology in daily life.• Explain the meaning of Importance of Elements of Astrology• Elaborate the meaning of Astrology.• Explain the importance of Panchaang, Kundali, Rashi jnana, Planetary.• Discuss the Process of Falaadesh.
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Course Content

Unit	Description	Weightage* (%)
1	<p>Introduction to Astrology :-</p> <ul style="list-style-type: none">• Use of Astrology in daily life• Concepts of(Time) Kaal , (Planet) Graha , Muhurta , Rishi Etc...• Importance of Elements of Astrology in life Birth (janam), kundali (Janampatrika), Future Comparisan of Planetary science (Graha Vijnana) And Modern science (Aadhunik Vijnana)• Etymology / Origin of the word Astrology (Jyotish) – Meaning , Aim , Importance , and Use• Principles (Theory), Samhita , Hora ,Questions , Shakon (Good /Bad signal)	50%





2	<ul style="list-style-type: none">• Introduction to Panchaang – Day (Tithi) , Time (vaar) , Constellation (nakshatra) , Yoga , bkaran (How to learn panchaang ?)• Mathematics in Kundali - Constraction / Preparation of Janamkundali - . Based on Tenure• Knowledge of Zodiac (Rashi jnana) - . Form of Rashi . Nature / Signe of Rashi . Co-existence• Knowledge of Planetary (Graha)- Form of Graha . Nature/Signe of Graha . Co-existence• Process of Falaadesh	50%
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Teaching-Learning Methodology	Lecture-cum-discussion, Group Discussion, Presentations, Seminars, tutorials, Research Exercises
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Evaluation Pattern		
Sr. No.	Details of the Evaluation	Weightage
1.	Internal Written / Practical Examination Internal Continuous Assessment in the form of Practical, Vivavoce, Quizzes, Seminars, Assignments, Attendance	30%
2.	University Examination	70%

Course Outcomes: Having completed this course, the learner will be able to	
1.	Explain the concepts related to Astrology.
2.	Develop theoretical understanding of various theories related to Astrology.
3.	Execute the use of Panchaang, Kundali, Rashi jnana, Planetary.





Suggested References:

- Astrology for Yourself: How to Understand And Interpret Your Own Birth Chart" by Demetra George and Douglas Bloch
- "Light on Life: An Introduction to the Astrology of India" by Hart de Fouw and Robert Svoboda
- Jyotish - The Science of Hindu (Vedic) Astrology" by Prash Trivedi
- The Foundations of Indian Astrology: With an Introduction to the Buddhist Astrology of Ancient India" by Kenneth Zysk

Online Resources :

Astrology.com: "How to Use Astrology in Your Daily Life" -

<https://www.astrology.com/article/how-to-use-astrology-in-your-daily-life.html>

AstroSage.com: "Basic Concepts of Indian Astrology" -

<https://www.astrosage.com/articles/astrology/basic-concepts-of-indian-astrology.asp>

Astrotalk.com: "Origin and Meaning of the Word Jyotish" - <https://astrotalk.com/astrology-blog/origin-meaning-word-jyotish/>





Add on Certificate Course on Dhanurveda
B.Sc. Sem. 1

Course Code	US1IKBSC04	Title of the Course	Dhanurveda
Total Credits of the Course	2	Total Hours per week	2

Course Objectives:	<p>The course will enable the learners to.....</p> <ul style="list-style-type: none">• Gain a comprehensive understanding of Dhanurveda, its historical significance, and its role in ancient Indian martial arts.• Identify and explore the prominent Rishis and Acharyas who contributed to the development of Dhanurveda.• Familiarize oneself with the different types of weapons (Shastra) used in Dhanurveda and their characteristics.• Understand the meanings and implications of terms such as Muktak, Amuktak, Yantra Mukta, and Mukta Muktak in the context of Dhanurveda.• Interpret the concepts of Shastra (weapon) and Ashastra (non-weapon) and their applications in combat.• Gain practical knowledge of the Mukta-Chakradi weapon and its techniques.• Comprehend the concept of Amukta and its relevance in Dhanurveda.• Understand the significance of Yantra Mukta and its role in weaponry.• Analyze the concept of Mukta Mukta and its interpretations in Dhanurveda.• Develop a well-rounded understanding of Dhanurveda by integrating theoretical knowledge with practical applications.
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Course Content		
Unit	Description	Weightage* (%)
1	Introduction to Dhanurveda Rishis and Acharyas of Dhanurveda Types of Weapon (Shastra) Explanations and Meanings of Muktak , Amuktak , Yantra Muktak and Mukta Muktak	50%



2	Interpretation of Shastra and Ashastra Mukta – Chakradi Amukta – Yantra Mukta – Mukta Mukta -	50%
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Teaching-Learning Methodology	Lecture-cum-discussion, Group Discussion, Presentations, Seminars, tutorials, Research Exercises
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Evaluation Pattern		
Sr. No.	Details of the Evaluation	Weightage
1.	Internal Written / Practical Examination Internal Continuous Assessment in the form of Practical, Vivavoce, Quizzes, Seminars, Assignments, Attendance	30%
2.	University Examination	70%

Course Outcomes: Having completed this course, the learner will be able to	
1.	Demonstrate a comprehensive understanding of Dhanurveda, including its historical significance, philosophical principles, and its role in ancient Indian martial arts.
2.	Identify and discuss the contributions of prominent Rishis and Acharyas to the development and preservation of Dhanurveda.
3.	Classify and differentiate between various types of weapons (Shastra) used in Dhanurveda, demonstrating knowledge of their characteristics, applications, and techniques
4.	Explain and interpret the meanings and implications of terms such as Muktak, Amuktak, Yantra Mukta, and Mukta Muktak within the context of Dhanurveda.
5.	Analyze and evaluate the concepts of Shastra (weapon) and Ashastra (non-weapon), and their significance in combat strategies and philosophical frameworks.
6.	Apply practical knowledge and demonstrate proficiency in the usage of the Mukta-Chakradi weapon, including its handling techniques, striking methods, and defensive maneuvers



7.	Understand the concept of Amukta and its practical implications in combat situations, demonstrating the ability to analyze and adapt strategies accordingly.
8.	Evaluate the significance of Yantra Mukta in Dhanurveda and its role in enhancing weapon effectiveness and combat proficiency.
9.	Interpret the concept of Mukta Mukta from different perspectives, considering its philosophical connotations and its practical applications in martial arts.
10.	Integrate theoretical knowledge with practical skills to demonstrate a well-rounded understanding of Dhanurveda, showcasing the ability to analyze, synthesize, and apply concepts in real-world scenarios.

Suggested References:

Dhanurveda: The Vedic Military Science by Dr. C.S. Pande
The Science of Armed Forces: Dhanurveda by Acharya Sushruta Misra
Indian Martial Arts: Dhanurveda by Prof. V.N. Jha
Ancient Indian Warfare: Dhanurveda by Prof. Upinder Singh
The Dhanurveda Handbook: A Practical Guide to Indian Martial Arts by Dr. Gurmeet Singh
A History of Ancient Indian Weapons and Warfare: Dhanurveda by Rama Shankar Tripathi
Dhanurveda: The Vedic Art of War by Vaidya Vasant Dattatray Lad
Encyclopaedia of Dhanurveda by Dr. Ram Swarup Sharma
Ancient Indian Military: Dhanurveda by Dr. Kanta Kumar
Dhanurveda: The Indian Science of Archery by Dr. Anil Kumar Mishra

Online Resources :

- Dhanurveda: The Vedic Military Science - <https://www.sacred-texts.com/hin/sbe09/index.htm>
- (This online text provides an English translation of Dhanurveda, offering insights into its principles and teachings.)
- Dhanurveda: Ancient Indian Military Science - <https://www.indianetzone.com/8/dhanurveda.htm>
- (This article provides an overview of Dhanurveda, including its history, principles, and significance in ancient Indian warfare.)
- Introduction to Dhanurveda - <https://www.learnreligions.com/dhanurveda-ancient-indian-military-science-1770169>
- (This article introduces Dhanurveda and explains its relevance as an ancient Indian military science.)



- Ancient Indian Weapons: Shastra -
https://www.indianetzone.com/35/ancient_indian_weapons.htm
- (This online resource discusses various types of weapons (Shastra) used in Dhanurveda, providing descriptions and historical context.)
- The Meaning of Muktak, Amuktak, Yantra Mukta, and Mukta Muktak -
<https://www.advaita-vedanta.org/archives/advaita-1/2003-June/011731.html>
- (This forum discussion provides insights into the meanings and interpretations of the terms Muktak, Amuktak, Yantra Mukta, and Mukta Muktak in the context of Dhanurveda.)
- Shastra and Ashastra in Dhanurveda - <https://www.indiatoday.in/magazine/society-the-arts/story/19960715-shastra-and-ashastra-in-dhanurveda-834496-1996-07-15>
- (This article explores the interpretations and significance of Shastra (weapon) and Ashastra (non-weapon) in Dhanurveda.)



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Add on Certificate Course Gandharveda
B.Sc. Sem. 1

Course Code	US1IKBSC05	Title of the Course	Gandharveda
Total Credits of the Course	2	Total Hours per week	2

Course Objectives:	<p>The course will enable the learners to.....</p> <ul style="list-style-type: none">• Gain an appreciation for the importance of Upaveda as a branch of Vedic knowledge and its influence on various aspects of life, including music, dance, and performing arts.• Develop a foundational understanding of Gandharveda as the Vedic science of music, dance, and performing arts, exploring its historical context and fundamental principles.• Explore the art forms of dance (Nritya), song (Gayan), and instrumental music, understanding their cultural significance, aesthetic principles, and expressive elements.• Recognize and comprehend the different components and elements of music, including melody, rhythm, harmony, and texture, and their contributions to the overall structure and impact of musical compositions.• Acquire knowledge of Swara and Saptaswara, gaining an understanding of musical notes and the seven basic notes of the musical scale, their characteristics, intervals, and application in vocal and instrumental music.
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Course Content		
Unit	Description	Weightage* (%)
1	Importance of Upaveda Introduction to Gandharveda Introduction to Dance (Nritya), Song (Gayan) and Instrumental music Introduction of Different parts of Music	50%
2	Introduction to Swara and Saptaswara Scientific form of Music ,Dance , Vocal Music and Instrumental Music	50%



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Teaching-Learning Methodology	Lecture-cum-discussion, Group Discussion, Presentations, Seminars, tutorials, Research Exercises
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Evaluation Pattern		
Sr. No.	Details of the Evaluation	Weightage
1.	Internal Written / Practical Examination Internal Continuous Assessment in the form of Practical, Vivavoce, Quizzes, Seminars, Assignments, Attendance	30%
2.	University Examination	70%

Course Outcomes: Having completed this course, the learner will be able to	
1.	Develop a comprehensive understanding of the importance and significance of Upaveda in various aspects of life, including its influence on music, dance, and performing arts.
2.	Demonstrate a foundational knowledge of Gandharveda as the Vedic science of music, dance, and performing arts, including its historical context and fundamental principles.
3.	Gain an appreciation for the art forms of dance (Nritya), song (Gayan), and instrumental music, understanding their cultural significance, aesthetic principles, and expressive elements.
4.	Identify and analyze the different components and elements of music, such as melody, rhythm, harmony, and texture, and understand how they contribute to the structure and impact of musical compositions
5.	Apply knowledge of Swara and Saptaswara, demonstrating an understanding of musical notes and the seven basic notes of the musical scale, their characteristics, intervals, and practical application in vocal and instrumental music.

Suggested References:
<ul style="list-style-type: none">• "The Art and Science of Indian Music: A Practical Guide to Gandharva Veda" by Ravi Shankar• "The Rhythm of Life: Indian Art of Dance and Music" by B. M. Sundaram• "Indian Classical Dance: Tradition in Transition" by Leela Venkataraman• "Sangeet Ratnakara: A Classic Treatise on Indian Classical Music and Dance" by Sarangadeva



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- "Nritya: The Art of Indian Classical Dance" by Sunil Kothari
- "The Music of India" by Reginald Massey
- "Introduction to Indian Classical Music" by Anjali Bhattacharya
- "The Ragas of North Indian Music: Their Structure and Evolution" by Walter Kaufmann
- "Indian Music: History and Structure" by Emmie Te Nijenhuis
- "The Art of Music: A Comprehensive Guide to Western and Eastern Musical Styles" by John Powell

Online Resources :

- "The Four Upavedas" on Ancient History Encyclopedia:
<https://www.ancient.eu/Upaveda/>
- "Upaveda" on Encyclopedia.com:
<https://www.encyclopedia.com/religion/encyclopedias-almanacs-transcripts-and-maps/upaveda>
- "Gandharva Veda" on Learn Religions: <https://www.learnreligions.com/gandharva-veda-1770326>
- "Gandharva Veda - The Vedic Science of Music" on Hinduwebsite.com:
<https://www.hinduwebsite.com/music/gandharva-veda.asp>
- "Indian Classical Dance Forms" on Cultural India:
<https://www.culturalindia.net/indian-dance/classical/index.html>
- "Indian Classical Music" on Cultural India: <https://www.culturalindia.net/indian-music/classical/index.html>
- "Elements of Music" on Connexions: <https://cnx.org/contents/7e1f4fb9-8cbf-4f21-8c79-52370fa2d378@3/elements-of-music>
- "Understanding the Basic Elements of Music" on TakeLessons.com:
<https://takelessons.com/blog/basic-elements-of-music-z15>
- "Introduction to Swara and Saptaswara" on BollyNook:
<http://www.bollynook.com/en/glossary/22357/introduction-to-swara-and-saptaswara>
- "The Seven Swaras of Indian Classical Music" on My Music Theory:
<https://www.mymusictheory.com/learn-music-theory-for-free/grade-5/051-the-seven-swaras>



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Add on Certificate Course on Kalpa Shastra
B.Sc. Sem. 1

Course Code	US1IKBSC06	Title of the Course	Kalpa Shastra
Total Credits of the Course	2	Total Hours per week	2

Course Objectives:	<p>The course will enable the learners to.....</p> <ul style="list-style-type: none">• Develop a comprehensive understanding of Kalpa Shastra and its significance in preserving and transmitting Vedic traditions, rituals, ceremonies, and social codes.• Identify and differentiate between the various types of Kalpa Shastra, including Shrautsutra, Grihyasutra, Dharmasutra, and Sulvasutra, and understand their distinct purposes and subject matters.• Explore the rituals, procedures, and philosophical aspects associated with different Yaag systems in Kalpa Shastra, such as Agnistoma, Ashvamedha, and Sautramani.• Gain insights into Grihastha Yagya Vidhan and its relevance in the context of household rituals and duties, including the ethical and social obligations of householders.• Understand the concepts of Streedharma, Rajdharma, and Daya Vyavastha, and their implications in terms of ethical and social responsibilities, both for women in society and for rulers in maintaining justice and compassion.
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Course Content		
Unit	Description	Weightage* (%)
1	Definition and Meaning of Kalpa Shastra Different types of Kalpa Shastra Introduction to Shrautsutra , Grihyasutra , Dharmasutra and Sulvasutra Different types of Yaag system in Kalpa Shastra Grihastha Yagya Vidhan	50%



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2	Introduction to Dharmashutra Description of Streedharma and Rajdharma Daya Vyavastha Introduction to Sulvasutra Available texts of Sulvasutra in present time Topics of Sulvasutra	50%
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Teaching-Learning Methodology	Lecture-cum-discussion, Group Discussion, Presentations, Seminars, tutorials, Research Exercises
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Evaluation Pattern		
Sr. No.	Details of the Evaluation	Weightage
1.	Internal Written / Practical Examination Internal Continuous Assessment in the form of Practical, Vivavoce, Quizzes, Seminars, Assignments, Attendance	30%
2.	University Examination	70%

Course Outcomes: Having completed this course, the learner will be able to	
1.	Develop a comprehensive understanding of Kalpa Shastra, including its subdivisions and their respective roles in preserving Vedic traditions, rituals, ceremonies, and social codes.
2.	Apply knowledge of different types of Kalpa Shastra, such as Shrautsutra, Grihyasutra, Dharmasutra, and Sulvasutra, in analyzing and interpreting Vedic texts and rituals
3.	Critically analyze the rituals, procedures, and philosophical aspects of various Yaag systems within Kalpa Shastra, evaluating their significance and relevance in different contexts.
4.	Apply the principles of Grihastha Yagya Vidhan to understand and perform household rituals and duties, and recognize the ethical and social responsibilities associated with household life.
5.	Recognize and evaluate the concepts of Streedharma, Rajdharma, and Daya Vyavastha, and develop an understanding of their implications in promoting ethical behavior, social



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responsibility, and justice within society.

Suggested References:

- "Kalpa: The Rituals and Mantras: Sacramental Instructions and Prayers in the Veda" by Frits Staal
- "The Dharmasutras: The Law Codes of Ancient India" by Patrick Olivelle
- "The Rituals and Forms of Worship in the Shrauta Sutras: An Introduction" by Michael Witzel
- "Sulba Sutras: The Rules of Vedic Geometry" by S. G. Dani
- "Women in the Vedic Age" by Devi Chand

Online Resources :

- "Kalpa Sutras" on Internet Archive: <https://archive.org/details/KalpaSutras>
- "Dharmasutras" on Sacred Texts: <https://www.sacred-texts.com/hin/sbe14/index.htm>
- "Shrauta Sutras" on Vedic Reserve:
<https://www.vedicreserve.mcu.ac.th/vedicreserve/index.php/vedic-resources/vedic-texts/yajurveda/shrauta-sutras>
- "Sulba Sutras" on Internet Sacred Text Archive: <https://www.sacred-texts.com/eso/ssa/index.htm>
- "Women in Ancient India" on Ancient History Encyclopedia:
<https://www.ancient.eu/article/1137/women-in-ancient-india/>



Add on Certificate Course on Ayurveda

B.Sc. Sem. 1

Course Code	US11KBSC07	Title of the Course	Ayurveda
Total Credits of the Course	2	Total Hours per week	2

Course Objectives:	<p>The course will enable the learners to.....</p> <ul style="list-style-type: none">• explain importance of holistic health care system through Ayurved.• derive general contribution of Ayurved in perspectives of health.• explain the contribution of charak in an area of health care.• differentiate tridosha , kapha, Pitta and vayu.• ellicit health habits for sound health.
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Course Content		
Unit	Description	Weightage* (%)
1	<ul style="list-style-type: none">• Ayurveda as a sub system of Athrvaved and Rugved• Definition and meaning of Ayurveda. charak sahita main points only.• The concept of tridosha and its effect on body. The concept of wholistic health care, Psychosometric aspects and health. Brief on Diagnosis and treatment in Ayurveda.	50%
2	<ul style="list-style-type: none">• Life style management through Ayurveda.• Water, food, and system of digestion related	50%





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Vallabh Vidyanagar, Gujarat
(Reaccredited with 'A' Grade by NAAC (CGPA 3.11))
Syllabus with effect from the Academic Year 2023-2024

	aspects: <ul style="list-style-type: none">• Satva, Rajas, Tamas, and qualities of a person.• Health care through Ayurveda• Contribution of vaghbhatt and madhav in brief.	
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Teaching-Learning Methodology	➤ Seminar, Assignment, Quiz, Interview, and Identification of some medical plants.
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Evaluation Pattern		
Sr. No.	Details of the Evaluation	Weightage
1.	Internal Written / Practical Examination Internal Continuous Assessment in the form of Practical, Vivavoce, Quizzes, Seminars, Assignments, Attendance	30%
2.	University Examination	70%

Course Outcomes: Having completed this course, the learner will be able to	
1.	Explain the meaning of Ayurveda.
2.	Exemplify tridosh with elaboration .
3.	Derive the importance of health habits.
4.	discuss the contribution of Ayurveda for holistic health care.
5.	Elaborate the importance of life style management through ayurvedic practices

Suggested References:
Charak Sahita, CHAUKHAMBHA PRAKASHAK





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Online Resources :

<https://archive.org/>

<https://web.archive.org/web/2/http://ayurved-online.com/>





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Add on Certificate Course

B.Sc. Sem. 1

Course Code	US1IKBSC08	Title of the Course	Chhand Rhytham
Total Credits of the Course	2	Total Hours per week	2

Course Objectives:	<p>The course will enable the learners to.....</p> <ul style="list-style-type: none">• Develop a comprehensive understanding of the concept and meaning of rhythm (Chhanda) within the context of Chhanda Shastra.• Explore the rich tradition of Chhanda Shastra, tracing its historical development and cultural significance in Indian literature.• Identify and differentiate between the different types of Chhanda Shastra, including Vedic Chhanda and Laukik Chhanda, and understand their unique characteristics and rules.• Study the contributions of prominent Acharyas (teachers) in Chhanda Shastra and their methodologies for analyzing and composing rhythmic patterns.• Examine the description of rhythm in Vedic Chhanda, delving into the various rhythmic patterns and meters used in Vedic compositions.
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Course Content		
Unit	Description	Weightage* (%)
1	Introduction to Rhythm (Chhanda) Explanation and Meaning of Rhythm Tradition of Chhanda Shastra Types of Chhanda Shastra Acharyas of Chhanda Shastra	50%
2	Description of Rhythm in Chhanda Shastra (Vedic Chhanda and Laukik Chhanda) Introduction to Vedic Chhanda Types of Vedic Chhanda	50%

Teaching-Learning Methodology	Lecture-cum-discussion, Group Discussion, Presentations, Seminars, tutorials, Research Exercises
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Evaluation Pattern		
Sr. No.	Details of the Evaluation	Weightage
1.	Internal Written / Practical Examination Internal Continuous Assessment in the form of Practical, Viva voce, Quizzes, Seminars, Assignments, Attendance	30%
2.	University Examination	70%

Course Outcomes: Having completed this course, the learner will be able to	
1.	Develop a comprehensive knowledge and understanding of the concept and meaning of rhythm (Chhanda) within the context of Chhanda Shastra, including its historical, cultural, and literary significance.
2.	Analyze and critically evaluate the various types of Chhanda Shastra, such as Vedic Chhanda and Laukik Chhanda, examining their unique characteristics, structures, and rules.
3.	Gain an appreciation for the rich tradition of Chhanda Shastra, understanding its historical development, cultural context, and its role in shaping Indian literature and poetry.
4.	Acquire knowledge of the prominent Acharyas of Chhanda Shastra, their contributions to the field, and their methodologies for analyzing and composing rhythmic patterns.
5.	Apply the understanding of rhythm in Chhanda Shastra to analyze and interpret various literary works, including Vedic compositions, recognizing and appreciating the significance of rhythmic patterns and meters.

Suggested References:
<ul style="list-style-type: none">• "The Art of Sanskrit Poetry: An Introduction to Language and Poetics" by S. L. Sarma• "Vedic Metre in its Historical Development" by S. K. Ramachandra Rao• "The Rhythm of Poetry in English" by Derek Attridge• "The Secret of the Veda" by Sri Aurobindo• "Chhandas: The Rules of Vedic Poetry" by Gaurinath Sastri



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Online Resources :

- SanskritDocuments.org - "Introduction to Chhanda Shastra":
<http://www.sanskritdocuments.org/articles/chandashastra.html>
- Learnerstv.com - "Vedic Metre":
<https://www.learnerstv.com/animation/animation.php?ani=284&cat=language>
- PoetryFoundation.org - "Poetic Rhythm: An Introduction":
<https://www.poetryfoundation.org/learn/glossary-terms/rhythm>
- SanskritStudies.org - "Vedic Chhanda and Its Significance":
<https://sanskritstudies.org/vedic-chhanda-and-its-significance/>
- MantraShaastra.com - "Chhandas - The Ancient Indian Poetic Metres":
<http://www.mantrashaastra.com/chhandas.html>



Multidisciplinary Course on Introduction to Indian Knowledge Systems

B.Sc. Sem. 1

Course Code	US11KBSC09	Title of the Course	Introduction to Indian Knowledge Systems
Total Credits of the Course	2	Total Hours	30

Course Objectives:	<p>The course will enable the student teachers to</p> <ul style="list-style-type: none">• Examine the concept of Bhartiya concept of spirituality and its various paths.• Examine the Bhartiya philosophy of life derived from Shashtras (ancient scriptures) and its implications for the Bhartiya lifestyle.• Analyse the concept of Indian Knowledge Systems (IKS) and emphasize its importance in preserving and disseminating indigenous knowledge.• Highlight the contributions of IKS to the world, particularly in the fields of mathematics and astronomy.• Explore the Bhartiya wisdom related to life sciences.• Study the science of architecture in ancient India with reference to significant sites.• Provide an overview of Ayurveda, including its concepts, branches, important books, and pioneers in the field.• Explore Bhartiya literature and the Bhartiya theory of aesthetics and rasa in various art forms.
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Course Content

Unit	Description	Weightage* (%)
1	Spiritual Bharat and Introduction to IKS <ul style="list-style-type: none">• Bhartiya Concept of Spirituality : Gyaan Marg, Bhakti Marg, Karm marg, Yog Marg• Bhartiya Spiritual Thinking Leading to Unity• Bhartiya Philosophy of Life Derived from Shashtras and its Implications for Bhartiya Life Style• Introduction to IKS and Its Importance• Introduction of Various Indian Knowledge Systems	50 %
2	Contribution of IKS to the World <ul style="list-style-type: none">• Bhartiya Contribution in Mathematics and Astronomy• Bhartiya Wisdom related to Life Science: Physics, Chemistry, Botany• Bhartiya Science of Architecture with reference to Lothal, Mohan Jo Daro, Dholavira, Temple Architecture	50 %





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	<ul style="list-style-type: none">• Ayurveda : Concept, Branches, Books and Pioneers• Bhartiya Literature and Bhartiya Theory of Aesthetics and Rasa	
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Teaching-Learning Methodology	Lecture-cum-discussion, Group Discussion, Presentations, Seminars, tutorials, Research Exercises
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Evaluation Pattern		
Sr. No.	Details of the Evaluation	Weightage
1.	Internal Written / Practical Examination Internal Continuous Assessment in the form of Practical, Vivavoce, Quizzes, Seminars, Assignments, Attendance	30%
2.	University Examination	70%

Course Outcomes: Having completed this course, the learner will be able to	
1.	Understand the diverse paths of spirituality in Bhartiya culture, including Gyaan Marg, Bhakti Marg, Karm Marg, and Yog Marg, and recognize their significance in individual and collective spiritual growth.
2.	Evaluate the Bhartiya philosophy of life derived from Shashtras and analyze its implications for contemporary Bhartiya lifestyles, fostering a deeper understanding of the connection between spirituality and everyday life.
3.	Explain the concept of Indian Knowledge Systems (IKS) and recognize its importance in preserving and promoting indigenous knowledge, fostering a sense of cultural identity and pride.
4.	Demonstrate knowledge of various Indian knowledge systems, such as Ayurveda, Vedic sciences, Yoga, Vedanta, and Jyotish, and appreciate their contributions to human knowledge and well-being.
5.	Recognize and appreciate the significant contributions of IKS to the world, particularly in the fields of mathematics and astronomy, and understand their impact on modern scientific advancements.
6.	Analyze the Bhartiya wisdom related to life sciences, including physics, chemistry, and botany, as described in ancient texts, and understand their relevance and potential applications in contemporary scientific research.
7.	Identify and analyze the unique architectural features and principles of ancient Indian sites like Lothal, Mohenjo-daro, Dholavira, and temple architecture, understanding their cultural, historical, and spiritual significance.





Suggested References:

- જયેન્દ્ર દવે . (૧૯૮૬). ભારતીય ચિંતકોનું શિક્ષણ ચિંતન. અમદાવાદ: યુનીવર્સીટી ગ્રંથ નિર્માણ બોર્ડ
- જુગલ કિશોર શર્મા. (૨૦૦૦). પુષ્પભૂમિ ભારત. કર્ણાવતી: સાધના પુસ્તક પ્રકાશન
- સ્વામી વિદિતાત્માનાન્દજી (૧૯૯૪). ભારતને ઓળખીએ. અમદાવાદ: રીલાયેબલ પબ્લીકેશન
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- Singh, A. P., & Yagnik, S. (Eds.). (2019). Indian Knowledge Systems: Understanding the Human Uniqueness. Springer.
- Frawley, D., & Ranade, S. (2001). Ayurveda, Nature's Medicine. Lotus Press.
- Lad, V., & Frawley, D. (1986). The Yoga of Herbs: An Ayurvedic Guide to Herbal Medicine. Lotus Press.
- Dasgupta, S. (1947). A History of Indian Philosophy. Cambridge University Press.
- Pollock, S. (2006). The Language of the Gods in the World of Men: Sanskrit, Culture, and Power in Premodern India. University of California Press.
- Sarma, K. V. (2008). Indian Astronomy: A Source-Based Approach. National Council of Education Research and Training.
- Narlikar, J. V., & Padmanabhan, T. (Eds.). (2016). Development of Physics in India. Springer.
- Mahdihassan, S. (1982). Ancient Indian Botany: Its Bearing on Art and Literature. Deccan College Post-Graduate and Research Institute.

Online References :

- Indian Knowledge Systems Vol 1 <https://iks.iitgn.ac.in/wp-content/uploads/2016/01/Indian-Knowledge-Systems-Kapil-Kapoor.pdf>
- <http://www.indianscience.org/index.html>
- Traditional Knowledge Systems of India <https://www.sanskritimagazine.com/india/traditional-knowledge-systems-of-india/>
- <https://orientviews.wordpress.com/2013/08/21/how-colonial-india-destroyed-traditional-knowledge-systems/>
- <https://www.thebetterindia.com/63119/ancient-india-science-technology/>
- <https://orientviews.wordpress.com/2013/08/21/how-colonial-india-destroyed-traditional-knowledge-systems/>

