



Anekant Education Society's

Tuljaram Chaturchand College, Baramati

(Autonomous)

Four Year B.A. Degree Program

(Faculty of Humanities)

CBCS Syllabus

F.Y.B.A.(Sanskrit) Semester -II

For Department of Sanskrit

Tuljaram Chaturchand College, Baramati

Choice Based Credit System Syllabus (2023 Pattern)

(As Per NEP 2020)

To be implemented from Academic Year 2023-2024

Title of the Programme: F.Y.B.A.**Preamble**

AES's Tuljaram Chaturchand College has made the decision to change the syllabus across various faculties from June, 2023 by incorporating the guidelines and provisions outlined in the National Education Policy (NEP), 2020. The NEP envisions making education more holistic and effective and to lay emphasis on the integration of general (academic) education, vocational education and experiential learning. The NEP introduces holistic and multidisciplinary education that would help to develop intellectual, scientific, social, physical, emotional, ethical and moral capacities of the students. The NEP 2020 envisages flexible curricular structures and learning based outcome approach for the development of the students. By establishing a nationally accepted and internationally comparable credit structure and courses framework, the NEP 2020 aims to promote educational excellence, facilitate seamless academic mobility, and enhance the global competitiveness of Indian students. It fosters a system where educational achievements can be recognized and valued not only within the country but also in the international arena, expanding opportunities and opening doors for students to pursue their aspirations on a global scale.

In response to the rapid advancements in the education field and the evolving approaches in various domains of Sanskrit and related subjects, the Board of Studies in Sanskrit at Tuljaram Chaturchand College, Baramati - Pune, has developed the curriculum for the first semester of F.Y.B.A. which goes beyond traditional academic boundaries. The syllabus is aligned with the NEP 2020 guidelines to ensure that students receive an education that prepares them for the challenges and opportunities of the 21st century. This syllabus has been designed under the framework of the Choice Based Credit System (CBCS), taking into consideration the guidelines set forth by the National Education Policy (NEP) 2020, LOCF (UGC), NCrf, NHEQF, Prof. R.D. Kulkarni's Report, Government of Maharashtra's General Resolution dated 20th April and 16th May 2023, and the Circular issued by SPPU, Pune on 31st May 2023.

Programme Specific Outcomes (PSOs)

PSO1. Research-Related Skills: Develop inter-disciplinary research aptitude and independent thinking.

PSO2. Social Competence: Utilise the knowledge to tackle the hurdles in this journey of life.

PSO3. Disciplinary Knowledge: Demonstrate a blend of traditional knowledge along with its application in the modern lifestyle.

PSO4. Personal and Professional Competence: A well managed idea of 'Self' makes the student efficient to live professional and personal life with peace and harmony.

PSO5. Critical Thinking: Demonstrate the ability to understand and address critical issues in physical and cultural environments.

PSO6. Human Perception and Behaviour: Learning Texts to understand human perception and behaviour is essential to improve decision making process.

PSO7. Effective Citizenship: Exhibit empathetic social concern, an equity-centered approach to national development, and actively engage in civic life through volunteering.

PSO8. Management Skills: Understand and apply management principles to their work, functioning effectively as individuals and as members or leaders in diverse, multidisciplinary teams.

PSO.9 Ethics: Recognize different value systems, including their own, understand the moral dimensions of their decisions, and take responsibility for their actions.

PSO10. Environmental Ethics and Sustainability: Comprehend the societal and environmental impact of their knowledge and exhibit an understanding of the need for sustainable development.

PSO11. Identification of critical problems and issues: Detection and identification of the critical problems and spatial issues are essential for sustainable development.

Anekant Education Society's
Tuljaram Chaturchand College, Baramati
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Board of Studies (BOS) in Sanskrit

Sr. No.	Name	Designation
1.	Mr. Anirudha A. Killedar	Chairman
2.	Dr. Mugdha Gadgil	Vice-Chancellor Nominee
3.	Dr. Ambarish Khare	Expert from other University
4.	Dr. Pankaja Waghmare	Expert from other University
5.	Dr. Pratima Rawal	Industry Expert
6.	Dr. Bharati Balte	Invitee
7.	Miss Rupali Wadekar	Invitee
8.	Prajwal Kamble	Student Representative

Credit Distribution Structure for F.Y.B.A. 2023-2024 (Sanskrit)

Level	Semester	Major		Minor	OE	VSC, SEC, (VSEC)	AEC, VEC, IKS	OJT, FP, CEP, CC, RP	Cum. Cr/Sem	Degree/Cum.Cr.
		Mandatory	Electives							
4.5	I	-	-	--	SAN-116-OE: Self Management and Bhagavadgita (4 credits)				4	
	II		-	SAN-161-MN: संस्कृत भाषाप्रवेश(2 credits)	SAN-166-OE संस्कृत अंतरंग (2 credits) SAN-167-OE प्राचीन भारतीय गणितशास्त्र परिचय (2 Credits)				6	
	Cum Cr.			2	8				10	

Course Structure for F.Y.B.A.(2023 Pattern)

Sem	Course Type	Course Code	Course Name	Theory / Practical	Credits
I	Major Mandatory	Nil	Nil		
	Major Mandatory	Nil	Nil		
	Open Elective (OE)	SAN-116-OE	Self Management and Bhagavadgita	Theory	4
	Open Elective (OE)	Nil	Nil		
	Vocational Skill Course (VSC)	Nil	Nil		
	Skill Enhancement Course (SEC)	Nil	Nil		
	Ability Enhancement Course (AEC)	Nil	Nil		
	Value Education Course (VEC)	Nil	Nil		
	Indian Knowledge System (IKS)	Nil	Nil		
	Co-curricular Course (CC)	Nil	Nil		
	Total Credits Sem-I				
II	Major Mandatory	Nil	Nil		
	Major Mandatory	Nil	Nil		
	Minor	SAN-161-MN	संस्कृत भाषाप्रवेश	Theory	2
	Open Elective (OE)	SAN-166-OE	संस्कृत अंतरंग	Theory	2
	Open Elective (OE)	SAN-167-OE	प्राचीन भारतीय गणितशास्त्र परिचय	Theory	2
	Vocational Skill Course (VSC)	Nil	Nil		
	Skill Enhancement Course (SEC)	Nil	Nil		
	Ability Enhancement Course (AEC)	Nil	Nil		
	Value Education Course (VEC)	Nil	Nil		
	Co-curricular Course (CC)	Nil	Nil		
	Total Credits Semester II				
Cumulative Credits Semester I and II					10

CBCS Syllabus as per NEP 2020 for F.Y.B.A.(2023 Pattern)

Name of the Programme	: B.A.
Programme Code	: UASA
Class	: F.Y.B.A.
Semester	: II
Course Type	: Minor (Theory)
Course Code	: SAN-161-MN
Course Title	: संस्कृत भाषाप्रवेश
No. of Credits	: 02
No. of Teaching Hours	: 30

Course Objectives:

1. To Introduce Sanskrit Language: Familiarise students with the Sanskrit alphabet, phonetic structure, and principles of word formation.
2. To Develop Sanskrit Listening Skills: Enhance listening skills in Sanskrit through comprehension using audio-visual aids and understanding through visual mediums.
3. To Cultivate Sanskrit Reading Proficiency: Develop the ability to read Sanskrit fluently by practising regular reading from prescribed textbooks and narrative literature.
4. To Acquire Everyday Sanskrit Speaking Skills: Attain proficiency in spoken Sanskrit suitable for daily communication and practical usage in routine interactions.
5. To Introduce Selected Sanskrit Literary Works: Explore selected Sanskrit literary works written by eminent scholars.
6. To Analyze Literary Works for Cultural Understanding: Analyse and interpret the cultural and philosophical nuances embedded in literary works, fostering a deeper understanding of the content.
7. To Teach Relevant Sanskrit Grammar: Provide instruction on specific Sanskrit grammar topics, including Sandhi, Karaka system, and Kartā-Karma concepts.

Course Outcomes:

By the end of the course, students will be able:

- CO1.** Demonstrate proficiency in recognizing and writing the Sanskrit alphabet, understanding phonetic structures and principles of word formation.
- CO2.** Apply their listening skills in Sanskrit, demonstrating the ability to comprehend spoken Sanskrit through audio-visual aids.
- CO3.** Read Sanskrit texts fluently, showcasing their ability to comprehend and interpret prescribed textbooks and narrative literature.

- CO4** Communicate in spoken Sanskrit for daily interactions and practical usage.
- CO5** Interpret and analyse selected Sanskrit literary works including Nirvana Shatkam, Singhashasaka Katha, Gautamasya Chaturyam, and Subhashitas.
- CO6** Analyze literary works to identify and understand cultural and philosophical nuances embedded in the text.
- CO7** Apply their knowledge of Sanskrit grammar, including Sandhi, Karaka system, and Kartā-Karma concepts, in language usage and analysis.

Topics and Learning Points

Teaching Hours

UNIT 1:संस्कृत भाषेचा परिचय

11

- 1.1 वर्णमाला, वर्णविग्रह, शब्दनिर्मिती
- 1.2 संस्कृत श्रवणकौशल्य - दृक्श्राव्य माध्यमातून संस्कृत ऐकणे व समजून घेणे
- 1.3 संस्कृत वाचनकौशल्य - संस्कृत नियतकालिके, कथापुस्तिका यांच्या माध्यमातून संस्कृतवाचनकौशल्य विकसित करणे.
- 1.4 दैनंदिन व्यवहारासाठी उपयुक्त संस्कृत संभाषण

UNIT 2: संस्कृत साहित्य परिचय -

11

- 2.1 श्रीगणेशपंचरत्नस्तोत्रम्
- 2.2 गजस्तत्र न हन्यते (पंचतंत्रातील एक निवडक कथा)
- 2.3 गौतमस्य चातुर्यम् ('मालविकाग्निमित्रम्' मधील नाट्यांश)
- 2.4 सुभाषितसंग्रह (निवडक १० सुभाषिते)

UNIT 3: उपयुक्त संस्कृत व्याकरण-

08

- 3.1 संधि (स्वरसन्धि आणि विसर्गसन्धि)
- 3.2 कर्ता-कर्म संकल्पना
- 3.3 कारक संकल्पना व उपयोजन

Reference Books:

1. सुरभारती, पुणे विद्यापीठ
2. शिंदोरी सार्थ सुभाषितांची, डॉ. सरोजा भाटे
3. सुगम संस्कृत व्याकरण, प्र. शं. जोशी
4. वेदसौरभ, पुणे विद्यापीठ
5. संस्कृतव्यवहारसाहस्री, संस्कृतभारती
6. पंचतंत्रम् (विष्णुशर्मा संकलितम्), संपादक - पं. ज्वाला प्रसाद मिश्रा

Choice Based Credit System Syllabus (2022 Pattern)

Mapping of Program Outcomes with Course Outcomes

Class: FYBA (Sem II)

Subject: Sanskrit

Course: Sanskrit Bhasha Pravesh

Course Code: SAN-161-MN

Weightage: 1= weak or low relation, 2= moderate or partial relation, 3= strong or direct relation

Course Outcomes	Program Outcome (POs)							
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO 1	2							
CO 2						3		
CO 3			1					
CO 4								
CO 5				3			2	
CO 6		3		2	2			
CO 7	3							2

Course Outcomes-

After completion of the course, student will be able to-

CO1. Demonstrate proficiency in recognizing and writing the Sanskrit alphabet, understanding phonetic structures and principles of word formation.

CO2. Apply their listening skills in Sanskrit, demonstrating the ability to comprehend spoken Sanskrit through audio-visual aids.

CO3. Read Sanskrit texts fluently, showcasing their ability to comprehend and interpret prescribed textbooks and narrative literature.

CO4 Communicate in spoken Sanskrit for daily interactions and practical usage.

CO5 Interpret and analyse selected Sanskrit literary works including Nirvana Shatkam, Sinhahasaka Katha, Gautamasya Chaturyam, and Subhashitas.

CO6 Analyze literary works to identify and understand cultural and philosophical nuances embedded in the text.

CO7 Apply their knowledge of Sanskrit grammar, including Sandhi, Karaka system, and Kartā-Karma concepts, in language usage and analysis.

Justification for Mapping**PO1 Research-Related Skills**

CO1: Demonstrating proficiency in recognizing and writing the Sanskrit alphabet, understanding phonetic structures, and principles of word formation enhances research-related skills through a foundational understanding of Sanskrit language components.

CO7: Students can apply their knowledge of Sanskrit grammar, including Sandhi, Karaka system, and Kartā-Karma concepts, in language usage and conduct a comparative study and research with the same concepts of grammar from any other language.

PO2 Effective Citizenship and Ethics

CO6: Philosophical Sanskrit Literature talks about Ethics and morality. This helps to nourish effective citizenship and ethics.

PO3 Social Competence

CO3: Reading Sanskrit texts fluently, showcasing their ability to comprehend and interpret prescribed textbooks and narrative literature enhances social competence by promoting the ability to read and interpret Sanskrit texts.

PO4 Disciplinary Knowledge

CO5: Interpret and analyse selected Sanskrit literary works, including Nirvana Shatkam, Sinhahasaka Katha, Gautamasya Chaturyam, and Subhashitas - Contributes to disciplinary knowledge by interpreting and analysing selected Sanskrit literary works.

CO6: This contributes to disciplinary knowledge by exploring the unique features of Philosophical Sanskrit Literature.

PO5 Personal and Professional Competence

CO6: Analysis of literary works to identify and understand cultural and philosophical nuances embedded in the text enhances personal and professional competence by fostering an understanding of cultural and philosophical nuances in Sanskrit literature.

PO6 Self-directed and Life-long Learning

CO2: Applying listening skills in Sanskrit and demonstrating the ability to comprehend spoken Sanskrit through audio-visual aids encourages self-directed and life-long learning.

PO7 Environment and Sustainability

CO5: Learning panchatantra literature generates a humanistic approach towards animals and the environment in general. This indirectly helps to attain awareness about Environment.

PO8 Critical Thinking and Problem Solving

CO7: Applying the knowledge of Sanskrit grammar, including Sandhi, Karaka system, and Kartā-Karma concepts, in language usage and analysis fosters critical thinking and problem-solving skills through the application of Sanskrit grammar concepts.

CBCS Syllabus as per NEP 2020 for F.Y.B.A.(2023 Pattern)

Name of the Programme	: B.A.
Programme Code	: UASA
Class	: F.Y.B.A.
Semester	: II
Course Type	: OE (Theory)
Course Code	: SAN-166-OE
Course Title	: संस्कृत अंतरंग
No. of Credits	: 02
No. of Teaching Hours	: 30

Course Objectives:

1. To Introduce Historical and Basic Aspects of Sanskrit Language: Enable students to comprehend the historical evolution, script, and pronunciation principles of Sanskrit.
2. To Explore Vedic Literature: Familiarise students with foundational information about Vedic literature, fostering an understanding of its significance and primary themes.
3. To Study Gadya (Prose) through Panchatantra Stories: Develop students' ability to read and understand prose passages using engaging narratives from Panchatantra, enhancing linguistic and literary comprehension.
4. To Analyse Selected Padya (Poetry) - Subhashitaratnani: Equip students with the skills to analyse selected verses from Subhashitaratnani, emphasising cultural and philosophical dimensions embedded in the poetry.
5. To Introduce Natya (Drama): Provide a foundational understanding of Sanskrit drama (Natya), its key features, and cultural significance.
6. To Develop Conversational Skills in Sanskrit: Enhance students' conversational skills by teaching basic numerical expressions, common nouns, pronouns, and verb conjugations in present and past tenses.
7. To Apply through Practical Exercises: Foster hands-on application of learning through transliteration exercises, simple translations, and role-playing scenarios to reinforce language skills.

Course Outcomes:

By the end of the course, students will be able:

- CO1.** Demonstrate a sound understanding of the historical evolution of Sanskrit, its script, and pronunciation patterns.
- CO2.** Appreciate the significance of Vedic literature and recognize its cultural and literary importance.

- CO3.** Comprehend and interpret prose passages, particularly from the Panchatantra, showcasing practical application of grammatical concepts.
- CO4** Analyse and appreciate the aesthetic elements within selected Sanskrit verses, showcasing literary analytical skills.
- CO5** Grasp the essentials of Sanskrit drama, recognizing its unique features and cultural importance in the broader spectrum of Sanskrit literature.
- CO6** Demonstrate the ability to engage in basic Sanskrit conversations
- CO7** Apply their Sanskrit language skills through practical exercises, ensuring a seamless transition from theoretical knowledge to real-world usage.

Topics and Learning Points

	Teaching Hours
UNIT 1:संस्कृत भाषेचा उगम	8
1.1 संस्कृत भाषेचा इतिहास	
1.2 वैदिक साहित्य: प्राथमिक माहिती	
1.3 वर्णमाला व उच्चारणपद्धतीतील तर्कशुद्धता	
UNIT 2: संस्कृत साहित्य परिचय	11
2.1 गद्य - स्वभावकृपणो नाम ब्राह्मणः (पंचतंत्रातील कथा)	
2.2 पद्य - सुभाषितरत्नानि (निवडक 15 सुभाषिते)	
2.3 नाट्य - कर्णभारम् / उरूभंगम् यातील निवडक नाटयांश	
UNIT 3: संभाषणात्मक संस्कृत -	11
3.1 १-१०० संख्या, संस्कृतमध्ये वेळ सांगणे	
3.2 नाम (देव, वन, माला) सर्वनाम (तद्, यद्, एतद्, अस्मद्, युष्मद्) क्रियापद- वर्तमानकाळ (लट् लकार) व भूतकाळ (लङ् लकार)	
3.3 कारक संकल्पना	
3.4 धातुसाधित अव्यये- त्वान्त, तुमन्त, ल्यबन्त	

Reference Books:

1. मैत्री संस्कृतशी, केळकर तन्मय
2. A Sanskrit grammar for students, Macdonell A. A.
3. सुगम संस्कृत व्याकरण, प्र. शं. जोशी
4. वेदसौरभ, पुणे विद्यापीठ
5. संस्कृत स्वयं-शिक्षक, सातवळेकर श्री. दा.
6. (Study Material will be provided to students for chapter 2.2 सुभाषितरत्नानि)

Choice Based Credit System Syllabus (2022 Pattern)
Mapping of Program Outcomes with Course Outcomes

Class: FYBA (Sem II)**Subject:** Sanskrit**Course:** Sanskrit Antarang**Course Code:** SAN-166-OE**Weightage:** 1= weak or low relation, 2= moderate or partial relation, 3= strong or direct relation

Course Outcomes	Program Outcome (POs)							
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO 1				3				
CO 2				2				
CO 3			1					
CO 4		3		3		2		1
CO 5			2	3				
CO 6					2			
CO 7			3					

Course Outcomes-

After completion of the course, student will be able to-

CO1. Demonstrate a sound understanding of the historical evolution of Sanskrit, its script, and pronunciation patterns.

CO2. Appreciate the significance of Vedic literature and recognize its cultural and literary importance.

CO3. Comprehend and interpret prose passages, particularly from the Panchatantra, showcasing practical application of grammatical concepts.

CO4 Analyse and appreciate the aesthetic elements within selected Sanskrit verses, showcasing literary analytical skills.

CO5 Grasp the essentials of Sanskrit drama, recognizing its unique features and cultural importance in the broader spectrum of Sanskrit literature.

CO6 Demonstrate the ability to engage in basic Sanskrit conversations

CO7 Apply their Sanskrit language skills through practical exercises, ensuring a seamless transition from theoretical knowledge to real-world usage.

Justification for Mapping**PO1 Research-Related Skills**

No CO can be mapped with this PO.

PO2 Effective Citizenship and Ethics

CO4: Subhashitas are the rich source of ethics. Moral and ethical values incorporated in the subhashitas can be highly useful to inculcate effective citizenship and ethics

PO3 Social Competence

CO3: This enhances social competence through practical application of grammatical concepts in interpreting prose passages.

CO5: Learning sanskrit drama emphasises on understanding society and its reflection on the human emotion

CO7: Applying linguistic skills when communicating in the society can be a good chance to improve social competence.

PO4 Disciplinary Knowledge

CO1: Knowledge of historical evolution of Sanskrit is essential and plays an important role in further study of this field.

CO2: Appreciation of the significance of Vedic literature and recognising its cultural and literary importance contributes to disciplinary knowledge

CO4: Analysis of selected Sanskrit verses contributes to disciplinary knowledge by analysing aesthetic elements in Sanskrit verses.

CO5: This enhances disciplinary knowledge by understanding the unique features and cultural importance of Sanskrit drama.

PO5 Personal and Professional Competence

CO6: Ability to engage in basic Sanskrit conversations enhances personal and professional competence by demonstrating conversational skills in Sanskrit.

PO6 Self-directed and Life-long Learning

CO4: Studying sanskrit verses includes deep understanding of moral values incorporated in Subhashita. This develops introspection oriented thinking nurturing Self directed and Life-long learning.

PO7 Environment and Sustainability

No CO can be mapped with this PO.

PO8 Critical Thinking and Problem Solving

CO4: Analysis and appreciation of the aesthetic elements within selected Sanskrit verses, showcasing literary analytical skills fosters critical thinking and problem-solving skills through the analysis of aesthetic elements in Sanskrit verses.

CBCS Syllabus as per NEP 2020 for F.Y.B.A.(2023 Pattern)

Name of the Programme	: B.A.
Programme Code	: UASA
Class	: F.Y.B.A.
Semester	: II
Course Type	: OE (Theory)
Course Code	: SAN-167-OE
Course Title	: प्राचीन भारतीय गणितशास्त्र परिचय
No. of Credits	: 02
No. of Teaching Hours	: 30

Course Objectives:

1. To introduce the History of Ancient Indian Mathematics: Provide an overview of history and development of ancient Indian mathematics and from Vedic Scholars like Bodhayana to medieval scholars like Aryabhata and Bhaskaracharya.
2. To familiarise Students with Ancient Indian Mathematicians: Explore the contributions of ancient Indian mathematicians and gain introductory knowledge about their work.
3. To understand the contemporary relevance of studying ancient Indian mathematics and knowing the opportunities of higher education in the same field.
4. To study Leelavati's Concepts as per the Text: Engage in the systematic study of mathematical concepts such as permutations, combinations, square roots, and cube roots as presented in the Leelavati text.
5. To explore Mathematical Practices in Leelavati: Investigate problem-solving methodologies, including addition, multiplication, division, square, square-root etc. in the context of Leelavati.
6. To understand technique used by author to explain the problems
7. To examine the mathematical content and applications of the Trairashik and Panchrashik sections in Leelavati.

Course Outcomes:

After completing this course, Students will be able to

1. Demonstrate a comprehensive understanding of the historical development of ancient Indian mathematics along with the contribution of Vedic Scholars.
2. Identify and appreciate the contributions of ancient Indian mathematicians through introductory knowledge.

3. Develop critical thinking skills in the context of Ancient Indian Mathematics.
4. Apply mathematical concepts from Leelavati, including permutations, combinations, square roots, and cube roots.
5. Utilize problem-solving methodologies presented in Leelavati, such as Addition, Subtraction, Multiplication, Division, Square, Square root etc.
6. Apply the concepts of Ishtakarma and Vyashtavidhi in mathematical problem-solving scenarios.
7. Demonstrate proficiency in understanding and applying mathematical content from the Trairashik and Panchrashik sections of Leelavati.

Topics and Learning Points

	Teaching Hours
Unit 1: प्राचीन भारतीय गणितशास्त्राचा इतिहास	05
1.1 विविध प्राचीन भारतीय शास्त्रांचा अल्प परिचय	
1.2 प्राचीन भारतीय गणितशास्त्राचा उगम व विकास	
1.3 प्राचीन भारतीय गणितज्ञांची परिचयात्मक माहिती	
1.4 भारतीय गणिताचे पाश्चात्य अभ्यासक	
1.5 लीलावती ग्रंथोक्त संज्ञा प्रकरण	
Unit 2: लीलावती ग्रंथाभ्यास	20
2.1 लीलावती ग्रंथानुसार बेरीज, वजाबाकी, गुणाकार, भागाकार, वर्ग, वर्गमूळ, घन, घनमूळ	
2.2 संक्रमण, श्रेढी प्रकरण	
2.3 इष्टकर्म व व्यस्तविधी	
2.4 त्रैराशिक व पंचराशिक प्रकरण	
Unit 3: सद्यकालीन आविष्कार	05
3.1 प्राचीन भारतीय गणितशास्त्राविषयी संशोधन करणाऱ्या संस्था	
3.2 प्राचीन भारतीय गणितशास्त्राची आधुनिक उपयुक्तता	

Reference Books:

1. कणाद ते कलम, डॉ. रंजन गर्गे
2. श्रीभास्कराचार्य कृत लीलावती पुनर्दर्शन (मूळ संस्कृतसह सटीक मराठी भाषांतर), प्रा. ना. ह. फडके (१९७१)
3. प्राचीन भारतीय गणित, मोहन आपटे (२०१६)
4. A Modern Introduction To Ancient Indian Mathematics, T.S. Bhanumurthy (2018)
5. Bhaskaracarya's Lilavati - Part 1 & 2, A.B. Padmanabha Rao (2019)

Choice Based Credit System Syllabus (2022 Pattern)

Mapping of Program Outcomes with Course Outcomes

Class: FYBA (Sem II)

Subject: Sanskrit

Course: Prachin Bharatiya Ganitshastra Parichay

Course Code: SAN-167-OE

Weightage: 1= weak or low relation, 2= moderate or partial relation, 3= strong or direct relation

Course Outcomes	Program Outcome (POs)							
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO 1	3							
CO 2			1					
CO 3								3
CO 4				3				3
CO 5					2			
CO 6						1		
CO 7				3				

Course Outcomes-

After completion of the course, student will be able to-

CO1 Demonstrate a comprehensive understanding of the historical development of ancient Indian mathematics along with the contribution of Vedic Scholars.

CO2 Identify and appreciate the contributions of ancient Indian mathematicians through introductory knowledge.

CO3 Develop critical thinking skills in the context of Ancient Indian Mathematics.

CO4 Apply mathematical concepts from Leelavati, including permutations, combinations, square roots, and cube roots.

CO5 Utilise problem-solving methodologies presented in Leelavati, such as Addition, Subtraction, Multiplication, Division, Square, Square root etc.

CO6 Apply the concepts of Ishtakarma and Vyashtavidhi in mathematical problem-solving scenarios.

CO7 Demonstrate proficiency in understanding and applying mathematical content from the Trairashik and Panchrashik sections of Leelavati.

Justification for Mapping**PO1 Research-Related Skills:**

CO1: Research-related skills are essential for understanding the historical development of mathematics and the contributions of scholars. This CO involves comprehensive research into ancient Indian mathematics.

PO2 Effective Citizenship and Ethics:

No CO can be mapped with this PO

PO3 Social Competence:

CO2: Recognizing and appreciating the contributions of mathematicians involves understanding cultural and social contexts, contributing to social competence.

PO4 Disciplinary Knowledge:

CO4 & CO7: Both CO4 and CO7 directly contribute to disciplinary knowledge by applying mathematical concepts from specific sections of Leelavati as Scientific Sanskrit Texts is one of the major contribution of sanskrit to India.

PO5 Personal and Professional Competence:

CO5: Problem-solving methodologies contribute to personal and professional competence by enhancing practical mathematical skills applicable in various contexts.

PO6 Self-directed and Life-long Learning:

CO6: Applying mathematical concepts in problem-solving scenarios requires self-directed learning and the application of learned principles throughout one's mathematical journey.

PO7 Environment and Sustainability:

No CO can be mapped with this PO

PO8 Critical Thinking and Problem Solving:

CO3: Learning the new ways of solving mathematical problems is considered as a great tool to improve Critical Thinking and Problem solving capacity of an individual.

CO4: Mathematical concepts from Leelavati, including permutations, combinations, square roots, and cube roots will assist student in developing problem solving attitude.