

## Theory Paper


<b>Part A Introduction</b>			
<b>Program: Research/ Honours</b>		<b>Class: B.Sc.</b>	<b>Year: IV</b>
		<b>Session: 2024-25</b>	
<b>Subject: Botany</b>		<b>GROUP – A</b>	
1.	<b>Course code</b>	S4BOTA1D	
2.	<b>Course Title</b>	<b>Ancient Indian Traditional and Vedic Botany</b>	
3.	<b>Course type: Core Course</b>	<b>Discipline Specific Elective – I</b>	
4.	<b>Pre-requisite</b>	To study this course, a student must have passed B. Sc. III year with Botany as major subject.	
5.	<b>Course Learning Outcomes (CLOs)</b>	By the end of this course the student will be able to: <ul style="list-style-type: none"> <li>• Acquire knowledge of Botany of ancient India.</li> <li>• Familiarize basic aspects of Vedic Botany.</li> <li>• Get employment opportunities in field of medicinal botany and Ayurveda.</li> <li>• Find career opportunities for start-up in the field of Botany.</li> <li>• Accomplish social services.</li> <li>• Pursue research in the field of naturopathy.</li> <li>• Perform best health practices.</li> </ul>	
6.	<b>Credit value</b>	Credits: 03	
7.	<b>Total marks</b>	Max marks: 30+70=100      Min. Passing marks = 35	
<b>Part B: Content of the Course</b>			
<b>Total no of Theory Lectures: 45</b>		<b>Credits: 03</b>	
Units	Topics	No. of lectures	
<b>I</b>	<b>Introduction of Ancient Indian Traditional Botany</b> <b>1.1 Traditional Botany:</b> Concept, Scope and Importance <b>1.2</b> Ancient Indian Rishi`s knowledge of Botany <b>1.3</b> Resources of Ancient Indian Traditional Knowledge of Botany (eg. Vraksh Ayurved, Krashi Parashar) <b>1.4</b> Indian Ancient Traditional Food and medicinal plants <b>1.5</b> Indian Ancient Traditional Nutraceuticals as alternative/ supplementary approach <b>1.6</b> Herbal Medicines as dietary supplements	09	

<b>II</b>	<p><b>Ancient Indian Agricultural Practices</b></p> <p>1.1 Seed germination practices (Bijoptivithi)  1.2 Methods of planting (Ropana Vidhana)  1.3 Management practices for irrigation (Nishacana Vidhi)  1.4 Management practices of soil fertility versus organic farming (Bhumi Nirupana)  1.5 Plant nutrition and fertilizers (Posana Vidhi)  1.6 Integrated plant disease management by herbal and green technique (Taru Cikitsa)</p>	09
<b>III</b>	<p><b>Introduction of Vedic Botany</b></p> <p>1.1 Concept, scope and importance of Vedic Botany  1.2 Herbs and plants in Vedic literature: A modern perspective  1.3 Contribution of Indian Rishis in Vedic Botany: Sushrut, Charak, Parashar, Manu, Varahmihir  1.4 Basic concept of vraksh Ayurveda and elements as revealed in Vedas  1.5 Knowledge of plants in ancient Indian Literature like Vedas, Samhita and Upnishad etc.  1.6 Glorification of plants (Taru Mahima)</p>	09
<b>IV</b>	<p><b>Branches of Vedic Botany – I</b></p> <p>1.1 <b>Vedic Plant Taxonomy:</b> Nomenclature, Classification of plants by Charak, Parashar, Manu and in Rigveda. Basic idea of important families of Vedic Period: Cruciferae (Swastikaganiya), Leguminosae (semiganiya), Rutaceae (Puplikagalniya), Cucurbitaceae (Tripuspaganiya), Apocynaceae (Malikaganiya), Compositae (Kurcapuspaganiya)  1.2 <b>Vedic Plant Anatomy (Citrikarana):</b> Basic concept according to Rigveda, Taittiriya Samhita, Brhadaranyaka Upanisad and Vraksh Ayurveda. Anatomical adaptation  1.3 <b>Vedic Plant Pathology (Taru Cikitsa):</b> Basic concept according to Atharvaveada abd Varahmihir.  1.4 <b>Vedic Medicinal Botany (Jadi-Buti):</b> Study of medicinal plants as mentioned in Agnipuran, Brahad Samhita, Udarkargalam, Krishi Sangrah etc.</p>	09
<b>V</b>	<p><b>Branches of Vedic Botany – II</b></p> <p>1.1 <b>Vedic Plant Physiology:</b> Udayana and Gunaratna concept of plant life, concept of plant nourishment, consciousness of plants, phototropic movement (Taru subha subha lakshana) of flowers, breaking of seed dormancy. Growth habit of trees in Atharvaveda.</p>	09

	<p><b>1.2 Vedic concept of Reproduction and heredity:</b> Basic concepts according to <i>Sumangala-vilasini</i>, <i>Brhatsamhita</i> and <i>Arthasastra</i>.</p> <p><b>1.3 Vedic Cytology:</b> Basic concept of Parashar (Vraksh Ayurveda)</p> <p><b>1.4 Vedic Plant Ecology:</b> Ecology and forest conservation (Druma Raksha), Forest management (Upavanakriya), Conservation of nature and natural resources by religious rituals and spirituality.</p>	
<p><b>Keywords/Tags:</b> Vedic Botany, Vedic Plant Literature, Ancient traditional Botany, Charak Samhita, Sushrut Samhita, Vraksh Ayurveda, Vedic concept of Botany, Mythological plants, Vedic Agriculture, Ancient agronomical practices.</p>		
<p><b>Part C Suggested learning resources</b></p>		
<p><b>Books and other learning resources</b></p>		
<ol style="list-style-type: none"> <li>1. Mishra P. K. Botany in Vedas. Write and Print Publication. 2016</li> <li>2. Dixit S. P. Vraksh Ayurved. Continental Publication. 2012</li> <li>3. Arya R. P. Vedic Farming. Published by Indian Foundation for Vedic Science. Kindle edition. 2014</li> <li>4. Shastry A.D. sushrut (Editor and Translator). Samhita of Maharshi Sushrut. Chaukhamba Publication, New Delhi. 2016</li> <li>5. Sastry S. N. (Editor and Translator). Caraka Samhita of Agnivesa, Chaukhamba Bharati Academy, Varanasi. 2013</li> <li>6. Ram Avadg Ram. Manual on Vedic Krishi. Central Institute for Subtropical Horticulture Lucknow.</li> <li>7. Pandey M. M., Eastogi S. and Rawat A. K. S. India Traditional Ayurvedic System of Medicinal and Neutritional Supplementation. Review Article. Hindavi Publishing Corporation. 2019</li> <li>8. Balkrishna A., Mishra R. K., Srivastava A., Joshi B., Marde R. and Prajapati U. B. Ancient Indian rishi's (Sages) knowledge of botany and medicinal plants since Vedic period was much older than the period of Theophrastus, A case study- who was the actual father of botany? International Journal of Unani and Integrative Medicine. 3(3): 40-44. 2019</li> </ol>		
<p><b>Suggested Website Links:</b></p>		
<ol style="list-style-type: none"> <li>1. Agricultural Astronomy. Website: <a href="https://en.wikipedia.org/wiki/Agricultural_astrology">https://en.wikipedia.org/wiki/Agricultural_astrology</a></li> <li>2. Das A. Concepts of Botany in Vedic India. Campus Chronical. Website: <a href="http://www.campuschronicle.in/concepts-of-botany-in-vedic-india-2/">http://www.campuschronicle.in/concepts-of-botany-in-vedic-india-2/</a></li> <li>3. Tiwari L. Ancient Indian Botany and Taxonomy. Website: <a href="https://www.infinityfoundation.com/mandala/t es/t es tiwar botany fra meset.htm">https://www.infinityfoundation.com/mandala/t es/t es tiwar botany fra meset.htm</a></li> </ol>		

4. Sharma A. L., Seerwani A. B. and Shastry V. R. Botany in the Vedas (Part - 1). PubMed. Indian J Hist Sci. 7:38-43. 1972
5. Joshi B., Marde R. K. and Prajapati U. B. Ancient Indian rishi's (Sages) knowledge of botany
6. Ancient Rishis. Website: [http://diehardindian.com/ancient-rishis/?gclid=CjwKCAjwiLGGBhAqEiwAgq3q\\_uaLdOm2YLD-NHrbyD-qppJOY\\_hhLQKtDM1hSB0PX2xwvKjViBMxwxC3SwQAvD\\_BwE](http://diehardindian.com/ancient-rishis/?gclid=CjwKCAjwiLGGBhAqEiwAgq3q_uaLdOm2YLD-NHrbyD-qppJOY_hhLQKtDM1hSB0PX2xwvKjViBMxwxC3SwQAvD_BwE)
7. 5 Sacred Plants in Vedas. Hamp street publication. Website: <https://hempstreet.in/blog/5-sacred-plants-in-vedas/>
8. Tripathi R. K. HERBS AND PLANTS IN VEDIC LITERATURE: A MODERN PERSPECTIVE. International Journal of Management and Applied Science, ISSN: 2394-7926 Volume-5, Issue-9. Sep 2019.
9. Swaminathan S. 107 Miracle herbs in Hindu Vedas.
10. Mridusmita Devi. Medicinal Plants and Trees of Atharvaveda and their uses in various diseases. Website: <https://www.pracyajournal.com/article/59/7-1-16-313.pdf>
11. Trees in Indian Mythology and pirituality. Website: <https://www.grow-trees.com/blog/uncategorized/trees-in-indian-mythology-and-spirituality/>
12. Gupta S. M. Plant Myths and Traditions in India. Website: <https://vidyaonline.org/dl/shaktigupta.pdf>
13. Chhajed Sonal. Top 15 Religious Plants of India. Website: <https://www.chhajedgarden.com/blogs/news/top-15-religious-plants-of-india>
14. Lal H. S., Singh S. and Mishra P.K. Trees in Indian Mythology. Review in Discovery. 12(29), March 1, 2014
15. Rangrajan C. Mythology of Indian Plants. Website: <https://www.scribd.com/doc/67997680/MYTHOLOGY-OF-INDIAN-PLANTS>
16. Mythical Tales of Fruits. Website: <https://indianewengland.com/2020/06/mythical-tales-of-fruit/>
17. Vedic Agricultural System. Website <http://vedicheritage.gov.in/vedic-heritage-in-present-context/agriculture-2/>
18. Rishi Krishi. Website: <https://www.ssiast.com/about/rishi-krishi.aspx>
19. Vedic Agricultural Practices. Website: <https://theinnerworld.in/spirituality/vedic-pathshala/vedic-agricultural-practices/>
20. Ancient Vedic Agriculture. Website: <https://www.hinduscriptures.com/vedic-sciences/ancient-vedic-agriculture/2142/>
21. Vedic Krishi 1- Why and How to Prepare Soil for Farming. Website: <http://organicindiastory.com/en/preparing-the-soil-the-vedic-way/>
22. Vedic Agriculture. Website: <https://www.thevedicway.org/vedic-agriculture/>
23. Rana S. S. Vedic Agriculture. Website: [https://www.researchgate.net/publication/339310256\\_Lecture\\_5\\_Vedic\\_Agriculture](https://www.researchgate.net/publication/339310256_Lecture_5_Vedic_Agriculture)

<b>Part D-Assessment and Evaluation</b>		
<b>Suggested Continuous Evaluation Methods:</b>		
Maximum Marks: 100 <span style="float: right;">Minimum Marks: 35</span>		
Continuous Comprehensive Evaluation (CCE): 30 marks, University Exam (UE) 70 marks		
<b>Internal Assessment:</b> Continuous Comprehensive Evaluation (CCE):30	Class Test Assignment/Presentation	30
<b>External Assessment:</b> University Exam Section: 70 Time: 03.00 Hours	<b>Section(A)</b> : Very short questions <b>Section (B)</b> : Short <b>Section (C)</b> : Long Questions	70
<b>Any remarks/ suggestions:</b>		

  
**Prof. Mahendra K. Gupta**  
 Head  
 School of Studies in Botany  
 Jiwaji University, Gwalior (M.P.)

## सैद्धांतिक प्रश्न पत्र

भाग ए		
कार्यक्रम : रिसर्च/ आनर्स	कक्षा : बी. एस-सी.	वर्ष : IV सत्र: 2024 – 25
विषय: वनस्पतिशास्त्र समूह – अ		
1.	पाठ्यक्रम कोड	<b>S4-BOTA1D</b>
2.	पाठ्यक्रम का विषय	प्राचीन भारतीय पारम्परिक व वेदिक वनस्पतिशास्त्र
3.	कोर्स का प्रकार:	डीएसई - I
4.	पूर्वापेक्षा	इस पाठ्यक्रम हेतु छात्र ने बी. एस-सी. तृतीय वर्ष में वनस्पतिशास्त्र मुख्य विषय के रूप में लिया है।
5.	कोर्स लर्निंग आउटकम (सीएलओ)	<p>पाठ्यक्रम के अंत में छात्र निम्न जानकारी प्राप्त कर सकेंगे:</p> <ul style="list-style-type: none"> <li>• प्राचीन भारतीय वनस्पतिशास्त्र का ज्ञान।</li> <li>• वेदिक वनस्पतिशास्त्र की अवधारणा।</li> <li>• औषधीय वनस्पतिशास्त्र व आयुर्वेद के क्षेत्र में रोजगार के अवसर।</li> <li>• वनस्पतिशास्त्र के क्षेत्र में स्टार्ट अप की शुरुआत।</li> <li>• सामाजिक सेवा के क्षेत्र में अवसर।</li> <li>• प्राकृतिक चिकित्सा जैसे क्षेत्रों में अनुसन्धान के अवसर।</li> <li>• बेहतर स्वास्थ्य प्रक्रिया।</li> </ul>
6.	क्रेडिट मूल्य	03 क्रेडिट (सैद्धांतिक)
7.	कुल मार्क	अधिकतम अंक (30+70 =100) न्यूनतम उत्तीर्ण अंक=35
<b>भाग बी: पाठ्यक्रम की विषयवस्तु</b>		
थ्योरी लेक्चर की कुल संख्या : 45    ट्यूटोरियल : 00    क्रेडिट : 03		
ईकाई	विषय	व्याख्यानों की संख्या
1	<p>प्राचीन भारतीय पारम्परिक वनस्पति शास्त्र का परिचय</p> <p>1.1 पारम्परिक वनस्पति शास्त्र: अवधारणा, अवसर व महत्व।</p> <p>1.2 वनस्पति शास्त्र में प्राचीन भारतीय ऋषियों के ज्ञान की जानकारी।</p> <p>1.3 वनस्पति शास्त्र के प्राचीन भारतीय पारम्परिक ज्ञान के स्रोत (जैसे वृक्ष आयुर्वेद, कृषि पाराशर)</p> <p>1.4 भारतीय प्राचीन पारम्परिक खाद्य एवं औषधीय पादप।</p>	09

	<p>1.5 भारतीय प्राचीन पारम्परिक न्यूट्रास्युटिकल्स पादप एकांतरित/ पूरक एप्रोच के रूप में  </p> <p>1.6 हर्बल औषधि पूरक आहार के रूप में  </p>	
2	<p><b>प्राचीन भारतीय कृषि पद्धतियाँ</b></p> <p>1.1 बीज अंकुरण पद्धति (बीजोप्तिविधि)  </p> <p>1.2 रोपण की विधियाँ (रोपणा विधि)  </p> <p>1.3 सिचाई हेतु प्रबंधन पद्धति (निशाकना विधि)  </p> <p>1.4 मृदा उर्वरकता प्रबंधन पद्धति बनाम जैविक कृषि (भूमि निरुपना)  </p> <p>1.5 पादप पोषण व उर्वरक (पोषण विधि)  </p> <p>1.6 हर्बल व हरित तकनीकी द्वारा एकीकृत पादप रोग प्रबंधन (तरु चिकित्सा)  </p>	09
3	<p><b>वेदिक वनस्पति शास्त्र का परिचय</b></p> <p>1.1 वेदिक वनस्पति शास्त्र की अवधारणा, अवसर व महत्व  </p> <p>1.2 वेदिक साहित्य में शाक व पादप: एक आधुनिक दृष्टिकोण  </p> <p>1.3 वेदिक वनस्पति शास्त्र में भारतीय ऋषियों की भूमिका: सुश्रुत, चरक, पाराशर, मनु, वराहमिहिर  </p> <p>1.4 वृक्ष आयुर्वेद व वेदों में वनस्पतिशास्त्र की मूलभूत अवधारणा  </p> <p>1.5 प्राचीन भारतीय साहित्य में पादप जैविकी की जानकारी जैसे वेद, संहिता, उपनिषद आदि  </p> <p>1.6 पादपों का महिमाकरण (तरु महिमा)  </p>	09
4	<p><b>वेदिक वनस्पतिशास्त्र की शाखायें – I</b></p> <p>1.1 वेदिक पादप वर्गिकी :नामकरण, चरक, पाराशर, मनु द्वारा व ऋग्वेद में पादपों का वर्गीकरण, वेदिक काल के महत्वपूर्ण कुलों का आधारभूत अध्ययन: कुसीफेरी (स्वस्तिकागनिया), लेग्युमिनोसी (सेमीगनिया), रुटेसी (प्युप्लिकागनिया), कुकुरबिटेसी (त्रिपुष्पगनिया), एपोसायनेसी (मलिकागनिया), कम्पोजिटी (कुरकापुष्पगनिया) </p> <p>1.2 वेदिक पादप औतिकी (सिट्रिकारण): ऋग्वेद, तैत्तिरीय संहिता, बृहदारण्यका उपनिषद व वृक्ष आयुर्वेद अनुसार मूलभूत अवधारणा, आंतरिकीय अनुकूलन  </p> <p>1.3 वेदिक पादप रोग विज्ञान (तरु चिकित्सा): अथर्ववेद व वराहमिहिर के अनुसार मूलभूत अवधारणा </p>	09

	<b>1.4 वेदिक औषधीय वनस्पति शास्त्र</b> :अग्निपुराण, बृहद संहिता, उदारकागलम, कृषि संग्रह आदि पर आधारित औषधीय पादपों का अध्ययन	
<b>5</b>	<p><b>वेदिक वनस्पति शास्त्र की शाखायें - II</b></p> <p><b>1.1 वेदिक पादप कार्थिकी:</b> उदयन व गुणरत्ना की पादप जीवन की अवधारणा, पादप पोषण की अवधारणा, पादप संचेतना, पुष्प की प्रकाशानुवर्तिक गति (तरु सुभ सुभ लक्षण), बीज प्रसुप्ति का नष्ट होना, अथर्ववेद अनुसार वृक्षों का वृद्धि स्वभाव  </p> <p><b>1.2 प्रजनन व आनुवांशिकता की वेदिक अवधारणा:</b> सुमंगल-विलासिनी, बृहदसंहिता, व अर्थशास्त्र आधारित अवधारणा </p> <p><b>1.3 वेदिक कोशिका विज्ञान:</b> पाराशर की मूलभूत अवधारणा (वृक्ष आयुर्वेद) </p> <p><b>1.4 वेदिक पादप पारिस्थितिकी:</b> पारिस्थितिकी व वन संरक्षण (डुमा रक्षा), वन प्रबंधन (उपवन क्रिया), प्रकृति व प्राकृतिक स्रोतों का धार्मिक रस्मों व अध्यात्म द्वारा संरक्षण </p>	<b>09</b>

**सार बिंदुः:** Vedic Botany, Vedic Plant Literature, Ancient traditional Botany, Charak Samhita, Sushrut Samhita, Vraksh Ayurveda, Vedic concept of Botany, Mythological plants, Vedic Agriculture, Ancient agronomical practices.

**भाग स- अनुशंसित अध्ययन संसाधन**

1. पाण्डे आर. पी. कृषि पराशर. 2019
2. चौधरी आर. सिंह. कृषि संहिता| प्रकाशक अन्नपुरणा प्रकाशक| 2020.
3. सातवलकर डी. वेद में कृषिविद्या | प्रकाशक स्वाध्याय मंडल (वैदिक शोध केंद्र) गुजरात 1997.
4. Mishra P. K. Botany in Vedas. Write and Print Publication. 2016
5. Dixit S. P. Vraksh Ayurved. Continental Publication. 2012
6. Arya R. P. Vedic Farming. Published by Indian Foundation for Vedic Science. Kindle edition. 2014
7. Shastry A.D. sushrut (Editor and Translator). Samhita of Maharshi Sushrut. Chaukhamba Publication, New Delhi. 2016
8. Sastry S. N. (Editor and Translator). Caraka Samhita of Agnivesa, Chaukhamba Bharati Academy, Varanasi. 2013
9. Ram Avadg Ram. Manual on Vedic Krishi. Central Institute for Subtropical Horticulture Lucknow.




10. Pandey M. M., Eastogi S. and Rawat A. K. S. India Traditional Ayurvedic System of Medicinal and Nutritional Supplementation. Review Article. Hindavi Publishing Corporation. 2019
11. Balkrishna A., Mishra R. K., Srivastava A., Joshi B., Marde R. and Prajapati U. B. Ancient Indian rishi's (Sages) knowledge of botany and medicinal plants since Vedic period was much older than the period of Theophrastus, A case study- who was the actual father of botany? International Journal of Unani and Integrative Medicine. 3(3): 40-44. 2019

**Suggested Website Links:**

1. Agricultural Astronomy. Website:  
[https://en.wikipedia.org/wiki/Agricultural\\_astrology](https://en.wikipedia.org/wiki/Agricultural_astrology)
2. Das A. Concepts of Botany in Vedic India. Campus Chronical. Website:  
<http://www.campuschronicle.in/concepts-of-botany-in-vedic-india-2/>
3. Tiwari L. Ancient Indian Botany and Taxonomy. Website:  
[https://www.infinityfoundation.com/mandala/t\\_es/t\\_es\\_tiwari\\_botany\\_frame\\_set.htm](https://www.infinityfoundation.com/mandala/t_es/t_es_tiwari_botany_frame_set.htm)
4. Sharma A. L., Seerwani A. B. and Shastry V. R. Botany in the Vedas (Part – 1). PubMed. Indian J Hist Sci. 7:38-43. 1972
5. Joshi B., Marde R. K. and Prajapati U. B. Ancient Indian rishi's (Sages) knowledge of botany
6. Ancient Rishis. Website: [http://diehardindian.com/ancient-rishis/?gclid=CjwKCAjwiLGGBhAqEiwAgq3q\\_uaLdOm2YLD-NHrbyD-qppJOY\\_hhLQKtDM1hSBoPX2xwvKjViBMxwxC3SwQAvD\\_BwE](http://diehardindian.com/ancient-rishis/?gclid=CjwKCAjwiLGGBhAqEiwAgq3q_uaLdOm2YLD-NHrbyD-qppJOY_hhLQKtDM1hSBoPX2xwvKjViBMxwxC3SwQAvD_BwE)
7. 5 Sacred Plants in Vedas. Hamp street publication. Website:  
<https://hempstreet.in/blog/5-sacred-plants-in-vedas/>
8. Tripathi R. K. HERBS AND PLANTS IN VEDIC LITERATURE: A MODERN PERSPECTIVE. International Journal of Management and Applied Science, ISSN: 2394-7926 Volume-5, Issue-9. Sep 2019.
9. Swaminathan S. 107 Miracle herbs in Hindu Vedas.
10. Mridusmita Devi. Medicinal Plants and Trees of Atharvaveda and their uses in various diseases. Website:  
<https://www.pracyajournal.com/article/59/7-1-16-313.pdf>

11. Trees in Indian Mythology and pirituality. Website: <https://www.grow-trees.com/blog/uncategorized/trees-in-indian-mythology-and-spirituality/>
12. Gupta S. M. Plant Myths and Traditions in India. Website: <https://vidyaonline.org/dl/shaktigupta.pdf>
13. Chhajed Sonal. Top 15 Religious Plants of India. Website: <https://www.chhajedgarden.com/blogs/news/top-15-religious-plants-of-india>
14. Lal H. S., Singh S. and Mishra P.K. Trees in Indian Mythology. Review in Discovery. 12(29), March 1, 2014
15. Rangrajan C. Mythology of Indian Plants. Website: <https://www.scribd.com/doc/67997680/MYTHOLOGY-OF-INDIAN-PLANTS>
16. Mythical Tales of Fruits. Website: <https://indianewengland.com/2020/06/mythical-tales-of-fruit/>
17. Vedic Agricultural System. Website <http://vedicheritage.gov.in/vedic-heritage-in-present-context/agriculture-2/>
18. Rishi Krishi. Website: <https://www.ssiast.com/about/rishi-krishi.aspx>
19. Vedic Agricultural Practices. Website: <https://theinnerworld.in/spirituality/vedic-pathshala/vedic-agricultural-practices/>
20. Ancient Vedic Agriculture. Website: <https://www.hinduscriptures.com/vedic-sciences/ancient-vedic-agriculture/2142/>
21. Vedic Krishi 1- Why and How to Prepare Soil for Farming. Website: <http://organicindiastory.com/en/preparing-the-soil-the-vedic-way/>
22. Vedic Agriculture. Website: <https://www.thevedicway.org/vedic-agriculture/>
23. Rana S. S. Vedic Agriculture. Website: [https://www.researchgate.net/publication/339310256\\_Lecture5\\_Vedic\\_Agriculture](https://www.researchgate.net/publication/339310256_Lecture5_Vedic_Agriculture)

भाग द - अनुशंसित मूल्यांकन विधियां:		
अनुशंसित सतत मूल्यांकन विधियां: अधिकतम अंक: 100 न्यूनतम अंक: 35 सतत व्यापक मूल्यांकन (CCE) अंक : 30 विश्वविद्यालयीन परीक्षा (UE) अंक: 70		
आंतरिक मूल्यांकन: सतत व्यापक मूल्यांकन (CCE):	क्लास टेस्ट/ असाइनमेंट/ प्रस्तुतीकरण (प्रेजेंटेशन)	30
आकलन : विश्वविद्यालयीन परीक्षा: समय- 03.00 घंटे	अनुभाग (अ): अति लघु प्रश्न अनुभाग (ब): लघु प्रश्न अनुभाग (स): दीर्घ उत्तरीय प्रश्न	70
कोई टिप्पणी/सुझाव: निरंक		

  
 Prof. Mahendra K. Gupta  
 Head  
 School of Studies in Botany  
 Jiwaji University, Gwalior (M.P.)

## Practical Paper

Part A Introduction			
<b>Program: Research/ Honours</b>	<b>Class: B. Sc.</b>	<b>Year: IV</b>	<b>Session: 2024-25</b>
<b>Subject: Botany</b>		<b>GROUP – A</b>	
<b>1</b>	<b>Course Code</b>	<b>S4-BOTA1Q</b>	
<b>2</b>	<b>Course Title</b>	Practical Ancient Indian Traditional and Vedic Botany	
<b>3</b>	<b>Course Type (Core Course/Elective/Generic Elective/Vocational/.....)</b>	Discipline Specific Elective- I	
<b>4</b>	<b>Pre-requisite (if any)</b>	To study this course, a student must have passed B. Sc. III year with Botany as major subject.	
<b>5</b>	<b>Course Learning outcomes (CLO)</b>	<p><b>On completion of this course, learners will be able to:</b></p> <ul style="list-style-type: none"> <li>Gain practical skill related with Ancient Indian Traditions</li> <li>Recognize ancient Indian agronomic practices</li> <li>Acquire ancient natural conservation practices</li> <li>Acquainted with food and medicinal plants and their application</li> </ul>	
<b>6</b>	<b>Credit Value</b>	<b>1 Credits</b>	
<b>7</b>	<b>Total Marks</b>	Max. Marks: 30+70	Min. Passing Marks:35
Part B- Content of the Course			
<b>Total No. of Practical (in hours per week): 2 Hours</b>			
<b>L-T-P:</b>			
Unit	Topics	No. of Lectures (2 Hours Each)	
<b>I</b>	<ol style="list-style-type: none"> <li>1. Identification and Characterization of ancient Indian traditional food plants.</li> <li>2. Identification and Characterization of ancient Indian traditional medicinal plants.</li> <li>3. Identification and Characterization of ancient Indian traditional fibre plants.</li> <li>4. Study of Ancient Indian Traditional and Vedic water conservation strategies.</li> <li>5. Study of Ancient Indian Traditional and Vedic Soil conservation strategies.</li> </ol>	<b>15</b>	

	6. Study of Ancient Indian Traditional and Vedic Forest conservation strategies. 7. Listing of plants recommended as per zodiac sign. 8. Listing of plants recommended as per Nakshatra. 9. Listing of plants recommended as per Vastu-shastra. 10. Study of various agricultural practices of Ancient Indian traditional and Vedic period. 11. Survey of ancient literature for conservation of natural resources. 12. Prepare a list of local festivals based on plants.	
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**Note: Visit to Nakshatr Vatika, Navagrah Vatika etc., (if available) and report writing.**

**Keywords/Tags:** Vedic Botany, Vedic Plant Literature, Ancient traditional Botany, Charak Samhita, Sushrut Samhita, Vraksh Ayurveda, Vedic concept of Botany, Mythological plants, Vedic Agriculture, Ancient agronomical practices.

### Part C-Learning Resources

#### Text Books, Reference Books, Other resources

1. Mishra P. K. Botany in Vedas. Write and Print Publication. 2016
2. Dixit S. P. Vraksh Ayurved. Continental Publication. 2012
3. Arya R. P. Vedic Farming. Published by Indian Foundation for Vedic Science. Kindle edition. 2014
4. Shastry A.D. sushrut (Editor and Translator). Samhita of Maharshi Sushrut. Chaukhamba Publication, New Delhi. 2016
5. Sastry S. N. (Editor and Translator). Caraka Samhita of Agnivesa, Chaukhamba Bharati Academy, Varanasi. 2013
6. Ram Avadg Ram. Manual on Vedic Krishi. Central Institute for Subtropical Horticulture Lucknow.
7. Pandey M. M., Eastogi S. and Rawat A. K. S. India Traditional Ayurvedic System of Medicinal and Nutritional Supplementation. Review Article. Hindavi Publishing Corporation. 2019
8. Balkrishna A., Mishra R. K., Srivastava A., Joshi B., Marde R. and Prajapati U. B. Ancient Indian rishi's (Sages) knowledge of botany and medicinal plants since Vedic period was much older than the period of Theophrastus, A case study- who was the actual father of botany? International Journal of Unani and Integrative Medicine. 3(3): 40-44. 2019


#### **Suggested Website Links:**

1. Agricultural Astronomy. Website: [https://en.wikipedia.org/wiki/Agricultural\\_astrology](https://en.wikipedia.org/wiki/Agricultural_astrology)
2. Das A. Concepts of Botany in Vedic India. Campus Chronical. Website: <http://www.campuschronicle.in/concepts-of-botany-in-vedic-india-2/>
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5. ~~Indian J Hist Sci 7:38-43, 1972~~ ~~Justany~~, Marde R. K. and Prajapati U. B. Ancient Indian rishi's (Sages) knowledge of

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[http://diehardindian.com/ancientrishis/?gclid=CjwKCAjwiLGGBhAqEiwAgq3q\\_uaLdOm2YLD-NHrbyD-qppJOY\\_hhLQKtDM1hSBoPX2xwvKjViBMxwxoC3SwQAvD\\_BwE](http://diehardindian.com/ancientrishis/?gclid=CjwKCAjwiLGGBhAqEiwAgq3q_uaLdOm2YLD-NHrbyD-qppJOY_hhLQKtDM1hSBoPX2xwvKjViBMxwxoC3SwQAvD_BwE)
6. 5 Sacred Plants in Vedas. Hamp street publication. Website: <https://hempstreet.in/blog/5-sacred-plants-in-vedas/>
7. Tripathi R. K. HERBS AND PLANTS IN VEDIC LITERATURE: A MODERN PERSPECTIVE. International Journal of Management and Applied Science, ISSN: 2394-7926 Volume-5, Issue-9. Sep 2019.
8. Swaminathan S. 107 Miracle herbs in Hindu Vedas.
9. Mridusmita Devi. Medicinal Plants and Trees of Atharvaveda and their uses in various diseases. Website: <https://www.pracyajournal.com/article/59/7-1-16-313.pdf>
10. Trees in Indian Mythology and spirituality. Website: <https://www.grow-trees.com/blog/uncategorized/trees-in-indian-mythology-and-spirituality/>
11. Gupta S. M. Plant Myths and Traditions in India. Website:  
<https://vidyaonline.org/dl/shaktigupta.pdf>
12. Chhajed Sonal. Top 15 Religious Plants of India. Website:  
<https://www.chhajedgarden.com/blogs/news/top-15-religious-plants-of-india>
13. Lal H. S., Singh S. and Mishra P.K. Trees in Indian Mythology. Review in Discovery. 12(29), March 1, 2014
14. Rangrajan C. Mythology of Indian Plants. Website:  
<https://www.scribd.com/doc/67997680/MYTHOLOGY-OF-INDIAN-PLANTS>
15. Mythical Tales of Fruits. Website: <https://indianewengland.com/2020/06/mythical-tales-of-fruit/>
16. Vedic Agricultural System. Website <http://vedicheritage.gov.in/vedic-heritage-in-present-context/agriculture-2/>
17. Rishi Krishi. Website: <https://www.ssiast.com/about/rishi-krishi.aspx>
18. Vedic Agricultural Practices. Website: <https://theinnerworld.in/spirituality/vedic-pathshala/vedic-agricultural-practices/>
19. Ancient Vedic Agriculture. Website: <https://www.hinduscriptures.com/vedic-sciences/ancient-vedic-agriculture/2142/>
20. Vedic Krishi 1- Why and How to Prepare Soil for Farming. Website:  
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22. Rana S. S. Vedic Agriculture. Website:  
[https://www.researchgate.net/publication/339310256\\_Lecture\\_5\\_Vedic\\_Agriculture](https://www.researchgate.net/publication/339310256_Lecture_5_Vedic_Agriculture)

**Suggested equivalent online courses: Nil**

<b>Part D-Assessment and Evaluation</b>			
<b>Suggested Continuous Evaluation Methods:</b>			
<b>Internal Assessment</b>	<b>Marks</b>	<b>External Assessment</b>	<b>Marks</b>
<b>Class Interaction /Quiz</b>	<b>10</b>	<b>Viva Voce on Practical</b>	<b>10</b>
<b>Attendance</b>	<b>10</b>	<b>Practical Record File</b>	<b>10</b>
<b>Assignments (Charts/ Model Seminar / Rural Service/ Technology Dissemination/ Report of Excursion/ Lab Visits/ Survey / Industrial visit)</b>	<b>10</b>	<b>Table work / Experiments</b>	<b>50</b>
<b>TOTAL</b>	<b>30</b>		<b>70</b>
<b>Any remarks/ suggestions: Table work/ practical will be based on locally available resources.</b>			

  
**Prof. Mahendra K. Gupta**  
 Head  
 School of Studies in Botany  
 Jiwaji University, Gwalior (M.P.)

## प्रायोगिक प्रश्न पत्र

भाग अ - परिचय			
कार्यक्रम: रिसर्च/ आनर्स	कक्षा : बी. एस-सी.	वर्ष :: IV	सत्र: 2024- 25
विषय : वनस्पतिशास्त्र		समूह - अ	
1	पाठ्यक्रम का कोड	<b>S4-BOTA1Q</b>	
2	पाठ्यक्रम का शीर्षक	प्रायोगिक प्राचीन भारतीय पारम्परिक वनस्पतिशास्त्र	
3	पाठ्यक्रम का प्रकार :(कोर कोर्स / इलेक्टिव/जेनेरिक इलेक्टिव / वोकेशनल / .....)	<b>डीएसई - I</b>	
4	पूर्वापेक्षा (Prerequisite)	इस पाठ्यक्रम हेतु विद्यार्थी ने बी. एस-सी. तृतीय वर्ष में वनस्पतिशास्त्र मुख्य विषय के रूप में लिया है।	
5	पाठ्यक्रम अध्ययन की परिलब्धियां (कोर्स लर्निंग आउटकम) (CLO)	इस पाठ्यक्रम को पूर्ण करने के पश्चात विद्यार्थी सक्षम होंगे: <ul style="list-style-type: none"> <li>• प्राचीन भारतीय परंपरा से सम्बन्धित प्रायोगिक कौशल प्राप्त करने में  </li> <li>• प्राचीन भारतीय कृषि पद्धति जानने में </li> <li>• प्राचीन भारतीय प्राकृतिक संरक्षण पद्धतियाँ जानने में  </li> <li>• प्राचीन खाद्य एवं औषधीय पादप एवं उनके अनुप्रयोग में </li> </ul>	
6	क्रेडिट मान	<b>01</b>	
7	कुल अंक	अधिकतम अंक: 30+70	न्यूनतम उत्तीर्ण अंक: 35
भाग ब- पाठ्यक्रम की विषयवस्तु			
व्याख्यान की कुल संख्या-00- ट्यूटोरियल-00- प्रायोगिक -15 (प्रति सप्ताह 02 घंटे): L-T-P:			
इकाई	विषय	व्याख्यान की संख्या (2 घंटे / व्याख्यान)	
1	<ol style="list-style-type: none"> <li>1. प्राचीन भारतीय पारम्परिक खाद्य पादप की पहचान व लक्षणों का अध्ययन।</li> <li>2. प्राचीन भारतीय पारम्परिक औषधि पादप की पहचान व लक्षणों का अध्ययन।</li> <li>3. प्राचीन भारतीय पारम्परिक रेशे पादप की पहचान व लक्षणों का अध्ययन।</li> <li>4. प्राचीन भारतीय पारम्परिक व वेदिक जल संरक्षण तकनीकी का अध्ययन।</li> <li>5. प्राचीन भारतीय पारम्परिक व वेदिक मृदा संरक्षण तकनीकी का अध्ययन।</li> <li>6. प्राचीन भारतीय पारम्परिक व वेदिक वन संरक्षण तकनीकी का अध्ययन।</li> <li>7. राशि अनुसार अनुशंसित पादपों की सूची।</li> <li>8. नक्षत्र अनुसार अनुशंसित पादपों की सूची।</li> <li>9. वास्तु शास्त्र अनुसार अनुशंसित पादपों की सूची।</li> </ol>	15	



	<p>10. प्राचीन भारतीय पारम्परिक व वेदिक काल मे प्रचलित विभिन्न कृषि प्रक्रियाओ का अध्ययन।</p> <p>11. प्रकृति संरक्षण हेतु प्राचीन ग्रंथो का सर्वे।</p> <p>12. पादप आधारित स्थानीय त्योहारो की सूची तैयार करना।</p>	
<p>नोट: नक्षत्र वाटिका, नवग्रह वाटिका आदि का भ्रमण (यदि उपलब्ध है तो) एवं रिपोर्ट लेखन  </p>		
<p><b>सार बिंदु (की बर्ड) टैग:</b> Vedic Botany, Vedic Plant Literature, Ancient traditional Botany, Charak Samhita, Sushrut Samhita, Vraksh Ayurveda, Vedic concept of Botany, Mythological plants, Vedic Agriculture, Ancient agronomical practices.</p>		
<p><b>भाग स- अनुशांसित अध्ययन संसाधन</b></p>		
<p>पाठ्य पुस्तकें, संदर्भ पुस्तकें, अन्य संसाधन</p>		
<ol style="list-style-type: none"> <li>1. Mishra P. K. Botany in Vedas. Write and Print Publication. 2016</li> <li>2. Dixit S. P. Vraksh Ayurved. Continental Publication. 2012</li> <li>3. Arya R. P. Vedic Farming. Published by Indian Foundation for Vedic Science. Kindle edition. 2014</li> <li>4. Shastry A.D. sushrut (Editor and Translator). Samhita of Maharshi Sushrut. Chaukhamba Publication, New Delhi. 2016</li> <li>5. Sastry S. N. (Editor and Translator). Caraka Samhita of Agnivesa, Chaukhamba Bharati Academy, Varanasi. 2013</li> <li>6. पाण्डे आर. पी. कृषि पराशर. 2019</li> <li>7. चौधरी आर. सिंह. कृषि संहिता  प्रकाशक अन्नपुरणा प्रकाशक  2020.</li> <li>8. सातवलकर डी. वेद में कृषिविद्या   प्रकाशक स्वाध्याय मंडल (वैदिक शोध केंद्र) गुजरात 1997.</li> <li>9. Ram Avadg Ram. Manual on Vedic Krishi. Central Institute for Subtropical Horticulture Lucknow.</li> <li>10. Pandey M. M., Eastogi S. and Rawat A. K. S. India Traditional Ayurvedic System of Medicinal and Nutritional Supplementation. Review Article. Hindavi Publishing Corporation. 2019</li> <li>11. Balkrishna A., Mishra R. K., Srivastava A., Joshi B., Marde R. and Prajapati U. B. Ancient Indian rishi's (Sages) knowledge of botany and medicinal plants since Vedic period was much older than the period of Theophrastus, A case study- who was the actual father of botany? International Journal of Unani and Integrative Medicine. 3(3): 40-44. 2019</li> </ol>		
<p><b>Suggested Website Links:</b></p>		
<ol style="list-style-type: none"> <li>1. Agricultural Astronomy. Website: <a href="https://en.wikipedia.org/wiki/Agricultural_astrology">https://en.wikipedia.org/wiki/Agricultural_astrology</a></li> <li>2. Das A. Concepts of Botany in Vedic India. Campus Chronical. Website: <a href="http://www.campuschronicle.in/concepts-of-botany-in-vedic-india-2/">http://www.campuschronicle.in/concepts-of-botany-in-vedic-india-2/</a></li> <li>3. Tiwari L. Ancient Indian Botany and Taxonomy. Website: <a href="https://www.infinityfoundation.com/mandala/t_es/t_es_tiwari_botany_frameset.htm">https://www.infinityfoundation.com/mandala/t_es/t_es_tiwari_botany_frameset.htm</a></li> <li>4. Sharma A. L., Seerwani A. B. and Shastry V. R. Botany in the Vedas (Part – 1). PubMed. Indian J Hist Sci. 7:38-43. 1972</li> </ol>		

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7. Tripathi R. K. HERBS AND PLANTS IN VEDIC LITERATURE: A MODERN PERSPECTIVE. International Journal of Management and Applied Science, ISSN: 2394-7926 Volume-5, Issue-9. Sep 2019.
8. Swaminathan S. 107 Miracle herbs in Hindu Vedas.
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अनुशंसित समकक्ष ऑनलाइन पाठ्यक्रम: निरंक

भाग द-अनुशंसित मूल्यांकन विधियां:

अनुशंसित सतत मूल्यांकन विधियाँ:

आंतरिक मूल्यांकन	अंक	बाह्य मूल्यांकन	अंक
कक्षा में संवाद/ प्रश्नोत्तरी	10	प्रायोगिक मौखिकी (वायवा)	10
उपस्थिति	10	प्रायोगिक रिकॉर्ड फाइल	10
असाइनमेंट (चार्ट/ मॉडल/ सेमिनार/ ग्रामीण सेवा / प्रौद्योगिकी प्रसार/ भ्रमण (एक्सकर्सन) की रिपोर्ट/ सर्वेक्षण/ प्रयोगशाला भ्रमण ( लैब विजिट) / औद्योगिक यात्रा	10	टेबलवर्क/ प्रयोग	50
कुल अंक	30		70

कोई टिप्पणी /सुझाव: टेबल कार्य/ प्रयोग स्थानीय स्तर पर उपलब्ध संसाधन पर आधारित होंगे ।

  
Prof. Mahendra K. Gupta  
Head  
School of Studies in Botany  
Jiwaji University, Gwalior (M.P.)