



**HEMCHANDRACHARYA NORTH GUJARAT UNIVERSITY, PATAN**

Program Name : B. Sc. Chemistry Semester V

PROGRAM CODE: SCIUG102

COURSE CODE: SC23VACCHE405

Type of course : Value Added Course VAC

Name of course : Bhartiya Science and Technology

Total Mark : 50

Effective from June 2023 Under NEP 2020

|                    |                                 |        |                   |
|--------------------|---------------------------------|--------|-------------------|
| Total Credits : 02 | Teaching Hours per Week: 02     | Theory | External 25 Marks |
|                    | Teaching hours per semester: 30 |        | Internal 25 Marks |

**Course Objectives:**

1. To understand importance Bhartiya science and technology
2. To have knowledge about contribution of Bhartiya science and technology.
3. To know about great mathematicians to our culture.

**Course Outcome:**

1. Students will gain a comprehensive knowledge of Bhartiya science and technology.
2. To raise awareness among students about Bhartiya science and technology.
3. Students will develop faith and honor about our culture.

| Unit | Topic                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Credit | Hr |
|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|----|
| 1    | <b>Fundamentals of Bhartiya science and technology</b><br><br>An overview of indian contribution to technology, technological innovations,<br>Metallurgy, Textile and chemistry: copper/ bronze/Zinc/ gold/ Silver<br>Iron and steel technology, textile and dyeing<br>Chemistry -I: Traditional chemical practices in India- pottery, mortar, cement, essential oils,<br>Chemistry II: Traditions medical systems in India Ayurveda, surgery, anatomy, nanoscience. | 1      | 15 |

*per*  
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| 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <b>Ancient applications of bhartiya technology</b><br>Management: Harappa water management, other case studies, Medieval water structures,<br>Transportation: modes of transportation and its reforms, development of trading activities,<br>Mathematics: development of mathematics in india, Great mathematicians and their contribution.<br>Unique aspects of mathematics, | 1 | 15 |
| <b>Books Recommended:</b><br>1. Science and Technology in ancient indian texts,, Bal Ram singh, girish Nath jha, D K Print publisher, 2012.<br>2. Ancient hindu science, Alok kumar, Jaco publishing house, 2019..<br>3. Engineering and technology in ancient India, Ravi kumar Arya, krishna publisher, 2022.<br><b>Further Reading:</b><br>1. Traditional knowledge system, Amit Jha, Atlantic publisher, 2019.<br>2. A modern introduction to ancient Indian Mathematics, T S Bhanu moorthy, New age international publishers, 2008.<br>3. Vedic physics, Keshav Das verma, motilal banaridas publisher, 2012.<br><b>Suggestive Digital Platforms Web Links:</b><br>1. <a href="http://www.phindia.com">http://www.phindia.com</a><br>2. <a href="https://www.garudabooks.com">https://www.garudabooks.com</a><br>3. <a href="https://www.exotiindiaart.com/">https://www.exotiindiaart.com/</a><br>4. <a href="https://www.anaadi.org">https://www.anaadi.org</a> |                                                                                                                                                                                                                                                                                                                                                                               |   |    |



  
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