



**B.C.A. (Honours) & B.C.A. (Honours with Research)**  
**(Semester - 1 and Semester - 2)**  
**Saurashtra University**  
**To be effective from June – 2023**

**CS-07: Mathematics in Ancient India: Exploring the Rich Heritage of Vedic Mathematics**

**Objectives:**

- Helps students understand the contributions made by ancient civilizations to the field of mathematics.
- Ancient mathematics helps to establish connections between past and present mathematical ideas.
- Exploring Mathematical concepts.

**Prerequisites:**

- Eagerness to know rich heritage of Indian Mathematics.

| Unit No. | Topic  | Details   |
|----------|--|---|
| 1        | <b>Biographies of Ancient Indian Mathematicians</b>    | <ul style="list-style-type: none"> <li>• A brief introduction to the lives and information on the works of the following mathematicians:<br/>Aryabhata, Varahmihira, Brahmagupta, Bhaskara I &amp; II</li> </ul>  |
| 2        | <b>Biographies of Remarkable Indian Mathematicians</b> | <ul style="list-style-type: none"> <li>• A brief introduction to the lives and information on the works of the following mathematicians:<br/>Shrinivasa Ramanujan, C. R. Rao, P. C. Mahalanobis, D. R. Kaprekar, Satyendranath Bose, Shakuntala Devi</li> </ul>                       |
| 3        | <b>Vedic Mathematics and Mathematics</b>               | <ul style="list-style-type: none"> <li>• Overview of Vedic Mathematics and its historical background.</li> <li>• Introduction to the 16 Sutras and 13 Upa-Sutras used in Vedic Mathematics.</li> <li>• Use of Vedic Mathematics</li> <li>• Importance of Vedic Mathematics</li> </ul> |

**Course Outcome:**

- Student will know the Mathematical advancements of Ancient India.
- Student will gain a deeper understanding of the historical development of mathematics in ancient civilizations.
- Enhance their problem-solving skills and discovering the connections between ancient mathematical ideas and modern mathematical concepts.

**Reference Books:**

- The History of Ancient Indian Mathematics. The World Press Private Ltd. Calcutta. Digitized Book (2009) - Srinivasiengar, C. N. (1988).
- "Vedic Mathematics" by Swami Bharati Krishna Tirtha