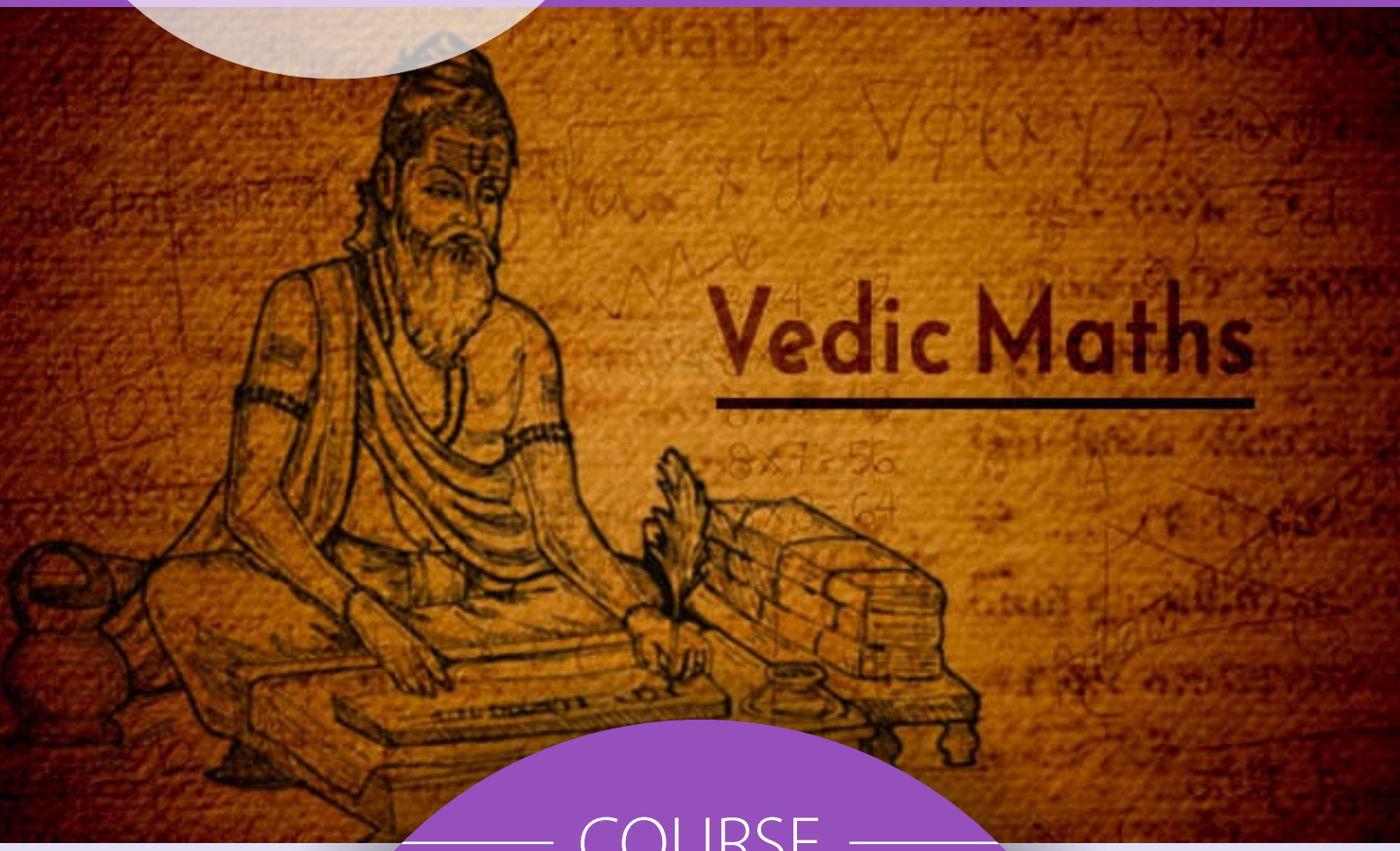
SHARDA UNIVERSITY
Beyond Boundaries

NAAC A+ ACCREDITED

SHARDA SCHOOL OF
BASIC SCIENCES
& RESEARCH



COURSE

Fundamentals of Vedic Mathematics (VAS806)

VALUE ADDED
COURSE BROCHURE-30 HRS
2024-25

ABOUT THE UNIVERSITY

Sharda University envisions to serve the society by being a global University of higher learning in pursuit of academic excellence, innovation and nurturing entrepreneurship. It has 14,000+ students from 95+ countries, 29 states, and Union Territories, providing cultural diversity and global exposure to students. It has 26000+ alumni who are today leaders in their realms. Sharda University is NAAC A+ University with Overall NIRF Rank of 87. Teaching Learning Center at Sharda University is to equip the faculty members with the expertise, skills and knowledge they need for capacity building of students. Teaching as a profession requires highly specialized skills and knowledge to impact significantly on student learning and therefore teachers must refine their conceptual and pedagogical skills.

ABOUT SCHOOL

Sharda School of Basic Sciences and Research (SSBSR) boasts of providing an interdisciplinary approach, exposure to different disciplines in science including Chemistry,Bio-Chemistry, Physics, Mathematics, Life Sciences, and Environmental Sciences.

The Sharda School of Basic Sciences and Research is unique from other institutions of higher learning as it is committed to imparting knowledge in pure and applied sciences, which not only forms the foundation for further academic pursuits in science and technology but also acts as the foundation for students to pursue a career in multi facet directions.

The academic programs are designed to meet the requirement of the latest technological developments and envisages to become a state-of-the-art department that cater the students at Graduate, Post-Graduate and Research level along with providing high-quality education and cutting-edge interdisciplinary research in sciences. SSBSR has well-equipped laboratories for Physics, MATLAB, Microbiology, Molecular Biology, Cell Culture, Virology, Bio-Chemistry, Physical, Organic and Inorganic chemistry for Graduate and Post-Graduate Programs. In addition, there are Central Instrumentation Facility (CIF) and other advance research labs to promote research culture.

ABOUT COURSE

"Vedic Mathematics" is a system of reasoning and mathematical working based on ancient Indian teachings called Veda. Vedic Mathematics forms part of Jyotish Shastra which is one of the six parts of Vedangas. It is a magical tool to reduce scratch work and finger counting, increases concentration and reducing silly mistakes. Vedic Mathematics introduces the wonderful applications to Arithmetical computations, theory of numbers, special multiplications, squaring, square root and Division.

COURSE SCHEDULE

Week	Content
1.	Contribution of Indian Mathematicians
2.	Addition and Subtraction
3.	Special Multiplication methods
4.	Squaring and square Roots
5.	Division

RESOURCE PERSONS

Dr. Anshu Kumar

Department: Department of Mathematics, SSBSR Sharda University

Dr. Anshu Kumar have joined Sharda group of institutions in 2007. At present, he is working as an Assistant Professor in the department of mathematics in the School of basic sciences and Research of Sharda University. He have done Ph.D. from Motilal Nehru National Institute of Technology.

School: SSBSR **Programme: PG.** **Branch: B.Sc. Mathematics, B.Sc. Data Science & Analytics**	**Batch : 2023-2026** **Current Academic Year: 2024-2025** **Semester : III**

1. Course Code	VAS806	
2. Course Title	Fundamentals of Vedic Mathematics	
3. Credits	Audit Course	
4. Contact Hours (L-T-P)	30 Hours	
Course Type	Value added course	
5. Course Objective	1.To introduce the fundamental concepts of Vedic Mathematics. 2.To increases concentration and helps in reducing silly mistakes. 3.To appreciate the mathematical advancements of Ancient India	
6. Course Outcomes	CO1: The student will be able to appreciate ancient Indian Mathematics and its contribution to the world. CO2: The student will be able to understand the need of conceptual knowledge over procedural processes. CO3: The student will be able to know how to use sutras in multiplication. CO4: The student will be able to develop conceptual knowledge of mathematical concepts of squaring. CO5: The student will be able to know how to find square of a number using reverse squaring method and general method of square root. CO6: The student will be able to develop conceptual knowledge of mathematical concepts of division.	
7. Course Description	This is an introductory course that provides an in-depth understanding of Vedic Mathematics. This course introduces the wonderful applications of Vedic Mathematics to Arithmetical computations, theory of numbers, special multiplications, squaring, square root and division.	
8. Outline syllabus		CO Mapping
Unit 1	**Contribution of Indian Mathematicians**	
A	Introduction of Bharti Krishna Tirtha, Brahmagupta	CO1
B	Srinivasa Ramanujan, Varahmihir	CO1
C	Neelkanth Somayya,	CO1
Unit 2	**Addition and Subtraction**	
A	Addition - Completing the whole, Addition of list of numbers - Shudh method	CO2
B	Addition from left to right, Subtraction - Base method	CO2
C	Subtraction - Completing the whole, Subtraction from left to right.	CO2
Unit 3	**Special Multiplication methods**	
A	Multiplication of complimentary numbers, Multiplication by numbers consisting of all 9s Base Method, Sub Base Method, Vinculum	CO3
B	Multiplication by 11, Multiplication by two-digit numbers from right to left.	CO3
C	Multiplication by three and four-digit numbers from right to left.	CO3
Unit 4	**Squaring and square Roots**	
A	Squaring numbers ending in 5, Squaring Numbers Near 50, Squaring numbers near a Base and Sub Base	CO4
B	Number splitting to simplify Squaring Calculation, Algebraic Squaring.	CO4
C	Reverse squaring to find Square Root of Numbers ending in 25	CO5
D	Square root of perfect squares, General method of Square Roots	CO5
Unit 5	**Division**	
A	Special methods of Division	CO6
B	Straight Division	CO6
C	Division Trick – without opted base, Division using opted base	CO6
Mode of Examination	Assignment/Quiz	
Text Book	1. Dr. Anil Kumar Teotia Fundamentals and Applications of Vedic Mathematics, Published by SCERT New Delhi, 2014.	
Other Reference	1. A Modern Introduction to Ancient Indian Mathematics, T S Bhanumurthy, Wiley Eastern Limited, New Delhi.	