SHREE MANIBHAI VIRANI & SMT. NAVALBEN VIRANI SCIENCE COLLEGE (AUTONOMOUS), RAJKOT
Department of Mathematics

Part III
Skill Enhancement Course (SEC) – I - Value Added Course (VAC)   For the students admitted from A.Y. 2021-2022 & onwards

Offering Department: Mathematics	Offered to: Students across the college **including** the offering department.

Semester : II –V (3 year programs)		
Course Code	Course Title	Course Credit and Hours
21AEVA11	Vedic Mathematics	**1 Credit - 4 hrs / wk**

Course Description:

This course is a collection of techniques/sutras to solve mathematical problem sets in a fast and easy way. These tricks introduce wonderful applications of arithmetical computation, theory of numbers, mathematical and algebraic operations, higher-level mathematics, calculus, and coordinate geometry, etc. It is one of the most refined and efficient mathematical systems possible. Vedic math is a system of learning maths for faster calculations with time-saving methods to get answers quickly developing the mental ability of learners. Maths as the subject requires a complete understanding of the concepts and daily practice. It is a subject in which one can score full marks if practices on a continuous basis.

Objective of the course:

1. To promote the Indian Mathematics.
2. To enhance computation skills in students.
3. Improve clarity on mathematical concepts.
4. Developing a logical thinking and analytical thinking through Vedic Mathematics.
5. Helping students discover their competence to deal with numbers and mathematics
6. Edifying students with speedy, simple and precise techniques to derive solutions

Target Skills (Course outcomes):
At the end of this course the learners will be able to

1. Appreciate and be proud of the history of ancient mathematics methods.
2. Interpret the sixteen sutras of vedic mathematics
3. Utilize the sutras in order to solve related problems of short calculation.
4. Solve many the algebraic problems using the vedic sutras.
5. Memorize difficult concepts without the burden of cramming.
6. Develop their arithmetic and analytical skills, they will increase in their concentration, and increase their ability to do mental calculations.

Justification and references for the course (Mapping with NSDC/NSQF/Sector Skill Council/Regional needs/any other) :

- The Value added course based on Vedic Mathematics belongs to area of ancient Indian mathematics are offering by NSDC-National Skill Development Corporation.
- **Reference**:
  The link of NSDC – https://iiva.in/vedic-maths-course/online/

Course Content	Hours
Module-I: Sutras 1 to 3	8 hrs
- EkadhikinaPurvena -By one more than the previous one (Cor: Anurupyena) - NikhilamNavatashcaramamDashatah -All from 9 and the last from 10 (Cor: SisyateSesasamjnah) - Urdhva-Tiryagbyham-Vertically and crosswise (Cor: Adyamadyenantyamantyena)	
Module-II : Sutras 4 to 6	8 hrs
- ParaavartyaYojayet-Transpose and adjust (Cor: KevalaihSaptakamGunyat) - ShunyamSaamyasamuccaye-When the sum is the same, that sum is zero. (Cor: Vestanam) (Anurupye) Shunyamanyat-If one is in ratio, the other is zero (Cor: YavadunamTavadunam)	
Module-III : Sutras 7 to 9	8 hrs
- Sankalana-vyavakalanabhyam-By addition and by subtraction (Cor:YavadunamTavadunikrityaVargaYojayet) - Puranapuranabyham-By the completion or non-completion (Cor: Antyayordashake)	
Module-IV : Sutras 10 to12	8 hrs
- Chalana-Kalanabyham-Differences and Similarities (Cor: Antyayoreva) - Yaavadunam-Whatever the extent of its deficiency (Cor: Samuccayagunitah) - Vyashtisamanstih-Part and Whole (Cor: Lopanasthapanabhyam)	
Module-V : Sutras 13 to16	8 hrs
- ShesanyankenaCharamena-The remainders by the last digit (Cor: Vilokanam) - Sopaantyadvayamantyam-The ultimate and twice the penultimate (Cor:	

GunitasamuccayahSamuccayagunitah)	
• EkanyunenaPurvena-By one less than the previous one (Cor: Dhvajanka)	
• Gunitasamuchyah-The product of the sum is equal to the sum of the product (Cor: Dwandwa Yoga)	
• Gunakasamuchyah-The factors of the sum is equal to the sum of the factors.	

Suggested laboratory experiments / other activities:

1. Activities regarding mentally calculation.

Pedagogic tools:

1. Chalk and Talk

1. PPT and Videos.
2. Assignment
3. Group discussion

Reference Books:

1. Swami B. K. T., Agrawala V. S.,(2013), *Vedic Mathematics*, Motilal Banarsidass Publishers Pvt Ltd.
2. Dhaval Bathia., (2021 Second edition), *Vedic Mathematics Made Easy*,Jaico Publishing House.

Suggested reading / E-resources

1. https://vedicmathsindia.org/
2. https://nptel.ac.in/courses/111/101/111101080/

Suggested MOOCs:

1. https://onlinecourses.swayam2.ac.in/ugc19_hs52/preview