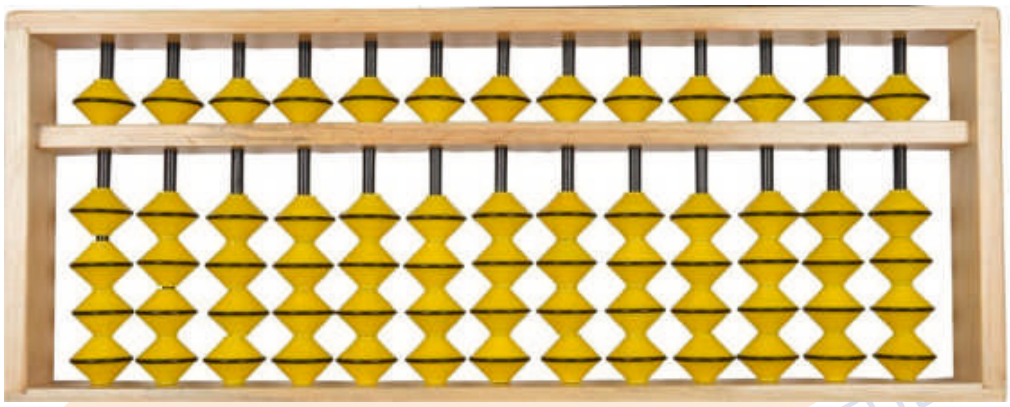
G.A. FUTURE EDUCORE PVT. LTD



Diploma in Abacus (DIAB)

Name of the course	Diploma in Abacus
Total Credits	32
Total Hours	480
Total Duration	1 Year
Total Semesters	2
Number of Subjects	8
Number of Projects	2

Semester-1

Course Code	Course Name	Total Credits	Teaching hrs per week	Internal Assessment	TEE Theory	Total Marks
DIAB 101	Abacus Origin & History	1	1	20	80	100
DIAB 102	Soroban-I (Basic operations)	3	3	20	80	100
DIAB 103	Visualisation & Mental Calculations-I	1	1	100		100
DIAB 104	Basics of Computer	3	3	20	80	100
Viva+Project						100
SLM*		2				

Semester-2

Course Code	Course Name	Total Credits	Teaching hrs per week	Internal Assessment	TEE Theory	Total Marks
DIAB 201	Teaching & Learning of Abacus	3	3	20	80	100
DIAB 202	Soroban-II (Advanced Operations)	3	3	20	80	100
DIAB 203	Visualisation & Mental Calculations-II	1	1	100		100
DIAB 204	Entrepreneurship & Human Communication	1	1	20	80	100
Viva+Project						100
Practical Training		16				
SLM*		2				

SLM* :- Self Learning Material

Semester-I
Syllabus
Course Code : DIAB 101
Course Name : Abacus Origin & History

Course Objectives

1. Understand the origin and historical development of Abacus.
2. Explain the purpose and significance of Abacus as a calculating tool.
3. Identify different variations and types of Abaci used throughout history.
4. Explore the cultural and historical contexts in which Abacus was developed and used.
5. Recognise the contributions of various civilizations and cultures to the evolution of Abacus.
6. Understand the role of Abacus in the development of mathematical thinking and problem-solving.
7. Trace the evolution of Abacus from its earliest forms to modern-day adaptations.
8. Identify key advancements and innovations in Abacus design and functionality.
9. Analyse the impact of technological advancements on the use and popularity of the Abacus.
10. Compare and contrast Abacus with other ancient and modern calculating devices.
11. Identify similarities and differences between different Abacus systems used in different regions.
12. Analyse the advantages and limitations of Abacus in relation to other calculating tools.
13. Recognise the enduring significance and relevance of Abacus in contemporary society.
14. Understand the influence of Abacus on the development of mathematical concepts and calculations.
15. Evaluate the continued use and educational value of Abacus in different cultural contexts.
16. Communicate knowledge and understanding of the origin and history of Abacus effectively.

Unit-1	Introduction to the Abacus tool and its evolution.
Unit-2	Ancient Roman & Greek Abacus
Unit-3	Chinese Abacus-Suanpan Tool
Unit-4	Japanese Abacus-Soroban Tool
Unit-5	Modern day usage of Abacus

Course Outcomes

1. Students will demonstrate knowledge of the origin and historical development of Abacus.
2. Students will be able to explain the purpose and significance of Abacus as a calculating tool.
3. Students will identify and describe different variations and types of Abaci used throughout history.
4. Students will understand the cultural and historical contexts in which Abacus was developed and used.
5. Students will recognise the contributions of various civilizations and cultures to the evolution of Abacus.
6. Students will appreciate the role of Abacus in the development of mathematical thinking and problem-solving.
7. Students will compare and contrast Abacus with other ancient and modern calculating devices.
8. Students will identify similarities and differences between different Abacus systems used in different regions.
9. Students will analyse the advantages and limitations of Abacus in relation to other calculating tools.
10. Students will effectively communicate knowledge and understanding of the origin and history of Abacus.

Semester-I
Syllabus
Course Code : DIAB 102
Course Name : Soroban-I (Basic operations)

Course Objectives

1. Understand the structure and layout of the Soroban (Japanese Abacus).
2. Identify and name the different parts of the Soroban.
3. Demonstrate proficiency in manipulating the beads on the Soroban.
4. Demonstrate proficiency in Addition on the Soroban.
5. Demonstrate proficiency in Subtraction on the Soroban.
6. Demonstrate proficiency in Multiplication on the Soroban.
7. Explain and demonstrate the Soroban operations clearly and accurately to others.
8. Use appropriate mathematical vocabulary and notation when describing the Soroban calculations.
9. Present solutions to problems using the Soroban in a clear, organised, and logical manner.

Unit-1	Introduction to Soroban
Unit-2	Addition and Subtraction
Unit-3	Multiplication

Course Outcomes

1. Students will demonstrate a solid understanding of the structure and layout of the Soroban.
2. Students will manipulate the beads on the Soroban accurately and efficiently.
3. Students will develop familiarity with the different parts of the Soroban and their functions.
4. Students will perform addition operations on the Soroban with precision and fluency.
5. Students will solve addition problems involving multiple digits accurately and efficiently.
6. Students will perform subtraction operations on the Soroban with accuracy and efficiency.
7. Students will solve subtraction problems involving multiple digits accurately and efficiently.
8. Students will perform multiplication operations on the Soroban with accuracy and efficiency.
9. Students will explain and demonstrate the Soroban operations clearly and accurately to others.
10. Students will use appropriate mathematical vocabulary and notation when describing the Soroban calculations.
11. Students will present solutions to problems using the Soroban in a clear, organised and logical manner.

Semester-I
Syllabus
Course Code : DIAB 103
Course Name : Visualisation & Mental Calculation

Course Objectives

1. Enhance the capacity and usage of Right Side of the Brain by using the picture form of digits (Beads).
2. To learn teaching technique of the visualisation.
3. Develop mental calculation skills by visualising the Soroban and performing calculations mentally.
4. Apply mental strategies for addition, subtraction and multiplication.
5. Solve mental arithmetic problems using the Soroban's principles without physically manipulating the beads.
6. Apply the Soroban skills to solve real-world and mathematical problems involving addition, subtraction & multiplication.

Unit-1	Introduction to Visualisation
Unit-2	Visualisation of Addition and Subtraction
Unit-3	Visualisation of Multiplication
Unit-4	Fingering speed

Course Outcomes

1. Students will be able to demonstrate the capacity and usage of Right Side of the Brain by using the picture form of digits (Beads).

2. Students will be able to teach the technique of the visualisation.

3. Students will be able to demonstrate mental calculation skills by visualising the Soroban and performing calculations mentally (Addition, Subtraction and Multiplication).

4. Students will be able to demonstrate the Soroban skills to solve real-world and mathematical problems involving Addition, Subtraction & Multiplication.

Semester-I
Syllabus
Course Code : DIAB 104
Course Name : Basics of Computer

Course Objectives

1. Understand the fundamental components and functions of a computer system, including hardware and software.
2. Familiarise with the basic terminology and concepts related to computers, such as operating systems, file management and data storage.
3. Develop an understanding of the history and evolution of computers, including major milestones and advancements in the field.
4. Learn the principles of computer organisaton, including input and output devices, memory and Central Processing Unit (CPU).
5. Gain proficiency in using common software applications and tools, such as word processors, spreadsheets and web browsers.
6. Develop basic computer skills, including navigating the desktop, creating and managing files and folders and performing basic system operations.
7. Understand the importance of computer security, including concepts like passwords, antivirus software and safe internet practices.
8. Learn about computer networks and their role in connecting devices and facilitating communication and data transfer.
9. Explore ethical considerations and responsible use of computers, including copyrights, privacy and digital citizenship.
10. Develop problem-solving skills and troubleshooting techniques to address common computer issues and errors.

Unit-1	Introduction to Computers
Unit-2	Overview of MS-Excel
Unit-3	Overview of MS-Word
Unit-4	Overview of MS-Powerpoint
Unit-5	Basic Internet Training
Unit-6	Online Teaching Aids & Platform

Course Outcomes

1. Students will be able to demonstrate a comprehensive understanding of the fundamental components and functions of a computer system, including hardware and software.

2. Students will be able to apply the basic terminology and concepts related to computers, such as operating systems, file management and data storage, in practical contexts.

3. Students will be able to explain the history and evolution of computers, recognising major milestones and advancements that have shaped the field.

4. Students will be able to identify and describe the principles of computer organisation, including input and output devices, memory and Central Processing Unit (CPU).

5. Students will be able to utilise common software applications and tools, such as word processors, spreadsheets and web browsers, to perform basic tasks and operations effectively.

6. Students will be able to demonstrate proficiency in navigating the desktop, creating and managing files and folders and performing basic system operations.

7. Students will be able to recognise and implement essential computer security measures, including password management, antivirus software and safe internet practices.

8. Students will be able to understand the concept of computer networks and their role in connecting devices and demonstrate knowledge of basic networking concepts.

9. Students will be able to discuss and apply ethical considerations and responsible use of computers, including understanding copyright laws, protecting privacy and practicing digital citizenship.

Semester-II
Syllabus
Course Code : DIAB 201
Course Name : Teaching & Learning of Abacus

Course Objectives

1. Understand the key principles and pedagogical approaches for the teaching and learning of Abacus.
2. Explore the historical and cultural context of Abacus to gain insights into its significance and relevance in modern education.
3. Develop a comprehensive knowledge of various teaching methods and strategies for effectively introducing and explaining Abacus concepts to learners.
4. Learn to adapt and differentiate Abacus instructions to meet the diverse needs and learning styles of students.
5. Develop skills in creating,engaging and interactive learning experiences that promote active participation and critical thinking of learners.
6. Incorporate technology and multimedia resources effectively to enhance the teaching and learning of Abacus.
7. Foster a positive and supportive learning environment that encourages student engagement, collaboration and self-confidence in practicing Abacus techniques.
8. Develop assessment strategies and tools to monitor student's progress, identify misconceptions and provide constructive feedback in Abacus.
9. Reflect on personal teaching practices and continuously seek professional development opportunities to enhance expertise in the teaching and learning of Abacus.

Unit-1	Introduction to the field of Abacus Education
Unit-2	Key Psychological ideas & research finding in Abacus Education
Unit-3	Lesson Plans of Abacus
Unit-4	Abacus curriculum models and techniques
Unit-5	Implementing and assessing Abacus lessons and curriculm
Unit-6	Becoming a professional Abacus teacher

Course Outcomes

1. Students will be able to demonstrate a deep understanding of the key principles and pedagogical approaches involved in the teaching and learning of Abacus.

2. Students will be able toa pply effective instructional strategies and methods to introduce and explain Abacus concepts to learners of various levels and abilities.

3. Students will be able to adapt and differentiate Abacus instructions to meet the diverse needs, learning styles and pace of individual students or groups.

4. Students will be able to integrate technology and multimedia resources effectively to enhance the teaching and learning of Abacus.

5. Students will be able to create a positive and inclusive learning environment that fosters student engagement, collaboration and self- confidence in practicing Abacus techniques.

6. Students will be able toe mploy a variety of assessment strategies and tools to monitor student progress, identify misconceptions and provide constructive feedback in Abacus.

Semester-II
Syllabus
Course Code : DIAB 202
Course Name : Soroban-II (Advanced Operations)

Course Objectives

1. Demonstrate proficiency in manipulating the beads on the Soroban.
2. Demonstrate proficiency in Division on the Soroban.
3. Demonstrate proficiency in H.C.F., L.C.M., Percentage, Square Roots and Cube Roots on the Soroban.
4. Explain and demonstrate the Soroban operations clearly and accurately to others.
5. Use appropriate mathematical vocabulary and notation when describing the Soroban calculations.
6. Present solutions to problems using the Soroban in a clear, organised and logical manner.

Unit-1	Division
Unit-2	H.C.F.
Unit-3	L.C.M.
Unit-4	Percentages
Unit-5	Square Roots
Unit-6	Cube Roots

Course Outcomes

1. Students will be able to manipulate the beads on the Soroban accurately and efficiently.

2. Students will be able to perform Division, H.C.F, L.C.M, Percentage, Square Roots and Cube Roots on the Soroban with precision and fluency.

3. Students will be able to explain and demonstrate the Soroban operations clearly and accurately to others.

4. Students will be able to use appropriate mathematical vocabulary and notation when describing Soroban calculations.

5. Students will be able to present solutions to problems using the Soroban in a clear, organised and logical manner.

Semester-II
Syllabus
Course Code : DIAB 203
Course Name : Visualisation & Mental Calculations

Course Objectives

1. Enhance the capacity and usage of Right Side of the Brain by using the picture form of digits (Beads).
2. To learn teaching technique of the visualisation.
3. Develop mental calculation skills by visualising the Soroban and performing calculations mentally.
4. Apply mental strategies for Division, H.C.F, L.C.M, Percentage, Square Roots and Cube Roots.
5. Solve mental arithmetic problems using the Soroban's principles without physically manipulating the beads.
6. Apply the Soroban skills to solve real-world and mathematical problems involving Division, H.C.F, L.C.M, Percentage, Square Roots and Cube Roots.

Unit-1	Visualisation of Division
Unit-2	Visualisation of H.C.F.
Unit-3	Visualisation of L.C.M.
Unit-4	Visualisation of Percentages
Unit-5	Visualisation of Square Roots
Unit-6	Visualisation of Cube Roots

Course Outcomes

1. Students will be able to demonstrate the capacity and usage of Right Side of the Brain by using the picture form of digits (Beads).

2. Students will be able to teach the technique of the visualisation.

3. Students will be able to demonstrate mental calculation skills by visualising the Soroban and performing calculations mentally (Division, HCF, LCM, Percentage, Square Roots and Cube Roots).

4. Students will be able to demonstrate the Soroban skills to solve real-world and mathematical problems involving Division, H.C.F, L.C.M, Percentage, Square Roots and Cube Roots.

Semester-II
Syllabus
Course Code : DIAB 204
Course Name : Enterpreneurship and Human Communication

Course Objectives

1. To enable students to learn about Business Success.
2. To enable students to learn about Value Creation.
3. To enable students to learn about Market Penetration.
4. To enable students to learn about Competitive Advantage.
5. To enable students to learn about Growth and Expansion.
6. To enable students to learn about Brand Building and Reputation.
7. To enable students to learn about Effective Marketing and Promotion.
8. To enable students to learn about Customer Engagement and Relationship Building.
9. To enable students to learn about Team Collaboration and Leadership.
10. To enable students to learn about Negotiation and Business Partnerships.
11. To enable students to learn about Crisis Management and Conflict Resolution.

Unit-1	Entrepreneurship-Meaning, Importance, Characterstics & Concepts
Unit-2	Models of Entrepreneurship
Unit-3	How is Entrepreneurship different from traditional conventional business?
Unit-4	Legal issues of Business
Unit-5	Setting of Business & Planning
Unit-6	Financial and Marketing Considerations
Unit-7	HRM in Small Business
Unit-8	Women Entrepreneurship

Course Outcomes

1. Students will be able to learn about Creativity and innovation.
2. Students will be able to learn about opportunity Recognition.
3. Students will be able to learn about Risk Assessment and Management.
4. Students will be able to learn about Resilience and Adaptability.
5. Students will be able to learn about Business and Financial.
6. Students will be able to learn about Networking and Relationship Building.
7. Students will be able to learn about Leadership and Team Management.
8. Students will be able to learn about Customer Focus and Market Orientation.
9. Students will be able to learn about Financial Literacy and Resourcefulness.
10. Students will be able to learn about Self Development and continuous Learning.