

**Course Outcome**  
**Department of Mathematics**  
**Handique Girls' College**

<b>Paper Code</b>	<b>Paper Name</b>	<b>Learning Outcome</b>
MAT0200104	Calculus	Able to- i) Understand continuity and differentiability in terms of limits. ii) Describe asymptotic behavior in terms of limits involving infinity. iii) Understand the importance of mean value theorems.
SEC0206803	LATEX	Able to- i) Create and typeset a LaTeX document. ii) Typeset a mathematical document using LaTeX. iii) Learn about pictures and graphics in LaTeX. iv) Create beamer presentations.
MDC	Foundations of Mathematical Sciences-II	Able to – i) Understand the concept of Mathematical Reasoning, Logical puzzle, Logical Thinking. ii) Understand the concept of factorial, permutation and combination, Pigeonhole principle, principle of inclusion and exclusion, Mensuration etc.
MAT0400104	Real Analysis	Able to- i) Have a rigorous understanding of the concept of limit of a function.

		<ul style="list-style-type: none"> <li>ii) Learn about continuity and uniform continuity of functions defined on intervals.</li> <li>iii) Understand the geometrical properties of continuous functions on closed and bounded intervals.</li> <li>iv) Learn extensively about the concept of differentiability using limits, leading to a better understanding for applications.</li> <li>v) Know about applications of mean value theorems and Taylor's theorem</li> </ul>
MAT0400204	Complex Analysis	<p>Able to-</p> <ul style="list-style-type: none"> <li>i) Learn the significance of differentiability of complex functions leading to the understanding of Cauchy–Riemann equations.</li> <li>ii) Learn some elementary functions and evaluate the contour integrals.</li> <li>iii) Understand the role of Cauchy–Goursat theorem and the Cauchy integral formula.</li> <li>iv) Expand some simple functions as their Taylor and Laurent series, classify the nature of singularities, find residues and apply Cauchy Residue theorem to evaluate integrals.</li> </ul>
MAT0400304	Analytical Geometry	<p>Able to-</p> <ul style="list-style-type: none"> <li>i) Learn conic sections and transform co-ordinate systems</li> <li>ii) Learn polar equation of a conic, tangent, normal and properties</li> <li>iii) Have a rigorous understanding of the concept of three-dimensional coordinates systems</li> </ul>
MAT0400404	Number Theory	<p>Able to-</p> <ul style="list-style-type: none"> <li>i) Learn about some fascinating discoveries related to the properties of prime numbers, and some of the open problems in number theory, viz., Goldbach conjecture etc.</li> <li>ii) Know about number theoretic functions and modular arithmetic.</li> <li>iii) Solve linear, quadratic and system of linear congruence equations.</li> </ul>

