

**Title: Introduction to Latex and Scilab****Eligibility:** Bachelor's degree in any Faculty**Objectives:** To create understanding of the LaTeX

To understand the fundamentals of Scilab and Utilization

Development of Proficiency in English and Communication Skills

**Course Structure:** The course is equivalent to 4 credits. The course can be run in any of the semesters.**Syllabus for LaTeX (1 CREDIT COURSE – 15 hours)**

S.NO.	CONTENT	INSTRUCTIONAL HOURS
1	Installation of the software LaTeX	1
2	Understanding Latex compilation Basic Syntex, Writing equations, Matrix, Tables	2
3	Page Layout – Titles, Abstract Chapters, Sections, References, Equation references, citation. List making environments Table of contents, Generating new commands, Figure handling numbering, List of figures, List of tables, Generating index.	4
4	Packages: Geometry, Hyperref, amsmath, amssymb, algorithms, algorithmic graphic, color, tilez listing.	3
5	Classes: article, book, report, beamer, slides. IEEtran.	2
6	Applications to: Writing Resumae Writing question paper Writing articles/ research papers Presentation using beamer.	3
7	Theory, Practical and exercises based on the above concepts.	1

**Syllabus for Scilab (1 CREDIT COURSE – 15 hours)**

S.NO.	CONTENT	INSTRUCTIONAL HOURS
1	Installation of the software Scilab. Basic syntax, Mathematical Operators, Predefined constants, Built in functions.	1
2	Complex numbers, Polynomials, Vectors, Matrix. Handling these data structures using built in functions.	2
3	Programming - Functions - Loops - Conditional statements - Handling .sci files	2
4	Installation of additional packages e.g. 'optimization'	1
5	Graphics handling - 2D, 3D - Generating .jpg files	3

	<ul style="list-style-type: none"> <li>- Function plotting</li> <li>- Data plotting</li> </ul>	
6	Applications <ul style="list-style-type: none"> <li>- Numerical Linear Algebra (Solving linear equations, eigen values etc.)</li> <li>- Numerical Analysis – iterative methods</li> <li>- ODE – Blotting solution curves</li> </ul> Comparison with C / C++/ Matlab	6

#### Syllabus for Soft Skills (2 CREDIT COURSE – 30 hours)

The syllabi should consist of practical and the theoretical aspects as well. For every component there shall be the practical and theoretical contents as well.

S.No.	PRACTICAL	THEORY	Duration in hours
1	<b>Development of Proficiency in English :</b> <ul style="list-style-type: none"> <li>• Practice on Oral and spoken communication skill &amp; testing – voice &amp; accent, voice clarity, voice modulation &amp; intonation , word stress etc.</li> <li>• Feedback and questioning Technique</li> <li>• Objectiveness in Argument</li> <li>• Development etiquettes and manners</li> <li>• Study of different pictorial expression of non-verbal communication and its analysis</li> <li>• Film presentation (Hollywood movies or English Serials)</li> </ul>	<b>Concepts of effective communication:</b> <ul style="list-style-type: none"> <li>• Components of effective communication</li> <li>• Communication process and handling them</li> <li>• KISS (Keep it short and sweet) in communication – Composing effective messages.</li> <li>• Non – Verbal Communication : its importance and nuances : Facial Expression , Posture , Gesture , Eye contact, appearance (dress code ).</li> </ul>	9
2	<b>Written Communication Skill Practice for:</b> <ul style="list-style-type: none"> <li>• Correction of errors</li> <li>• Making of Sentences</li> <li>• Paragraph Writing</li> <li>• Leave Application and simple letter writing</li> </ul>	<b>Grammatical use:</b> <ul style="list-style-type: none"> <li>• Punctuation</li> <li>• Meaning &amp; opposites</li> <li>• Real Life conversations</li> <li>• Vocabulary building</li> </ul>	6
3	<b>Presentation Skill practice</b> <ul style="list-style-type: none"> <li>• Preparing in presentation</li> <li>• Delivery of presentation</li> </ul>	<b>Concept of 4 method for presentation</b> <ul style="list-style-type: none"> <li>• Preparation &amp; introduction</li> <li>• Presentation</li> <li>• Evaluation / feedback</li> <li>• Summarization / Conclusion</li> </ul>	6
4	<b>Team Building / Coordination</b>	<b>Concept of</b>	<b>6</b>

	<b>Skills</b> <ul style="list-style-type: none"> <li>• Team Building Practices through group exercises , team task / role play</li> <li>• Ability to mixing &amp; accommodation</li> <li>• Ability to work together</li> </ul>	<ul style="list-style-type: none"> <li>• Group</li> <li>• Group Dynamics</li> <li>• Team building</li> </ul>	
5	<b>Telecommunication Skills</b> <ul style="list-style-type: none"> <li>• Tele – etiquette</li> <li>• Receiving Calls</li> <li>• Transferring calls</li> <li>• Taking Message/ Voice Mails</li> <li>• Making Outgoing Calls</li> <li>• Receiving Fax</li> </ul>	<b>Electronic Communication concept</b> <ul style="list-style-type: none"> <li>• Working principle of Mini exchange and its features and facilities.</li> </ul>	3

**NOTE: Suggestion is to open a common film club for all the departments, where the movie can be displayed at fixed time and which shall cost minimal charges from the viewers.**

**Methodology:** Lectures supplemented with case studies that may include visits.

**Assessment:** Final assessment by written and group discussion. Skill based assessment will be as per the case study.

