

## Innovative Practices

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<b>Course Name</b>	: Automata Theory and Compiler Design
<b>Class</b>	: II B. Tech II Semester
<b>Academic Year</b>	: 2023-2024
<b>Title of the Topic</b>	: Semantic Analysis
<b>Activity Name</b>	: Blended Learning

### Objective

To combine the strengths of both in-person and online learning to create a more flexible, personalized, and effective learning experience. It allows students to engage with content through various formats.

### Method to Implement

#### 1. Pre-Class Learning (Online Phase)

- **Pre-recorded Lectures:** Short videos explaining the concepts of semantic analysis, symbol tables, type checking, and scope resolution.
- **Reading Material:** Chapters or articles on the role of semantic analysis in a compiler, including real-world examples like type mismatches, undeclared variables, and scope issues.

#### 2. In-Class Learning (Face-to-Face Phase)

- **Discussion Sessions:** Recap of online materials with discussions on the importance of semantic analysis in programming languages, focusing on type checking, symbol table management, and error handling.
- **Hands-on Exercises:** Practice identifying semantic errors in code and applying type-checking mechanisms in languages like Java or C++.

#### 3. Post-Class Learning (Reinforcement Phase)

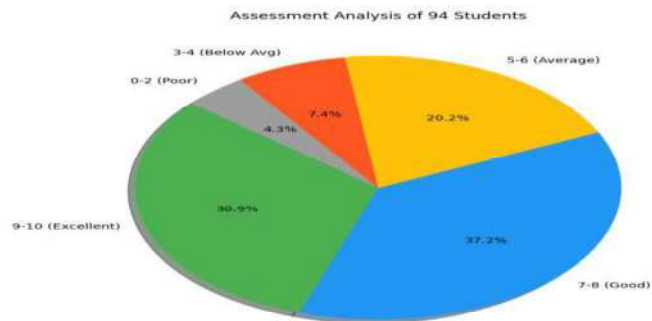
- **Follow-up Videos:** Additional content on advanced semantic analysis techniques like context-sensitive analysis, scope resolution, and handling polymorphism in object-oriented languages.
- **Assignments:** Solve practical problems that involve analyzing code for semantic errors, implementing type-checking algorithms, and working with symbol tables to reinforce learning.

## Screenshot of the Practice



## Assessment Analysis

Marks Range	Number of Students	Percentage
9-10 (Excellent)	29	30.85%
7-8 (Good)	35	37.23%
5-6 (Average)	19	20.21%
3-4 (Below Avg)	7	7.54%
0-2 (Poor)	4	4.26%
<b>Total</b>	<b>94</b>	<b>100%</b>



## Conclusion

The blended learning approach integrates online lectures, in-class discussions, and post-class assignments to offer a balanced learning experience in semantic analysis. It combines theoretical foundations with practical application, ensuring students grasp key concepts like type checking and symbol tables while reinforcing skills through hands-on practice.

**Signature of the Faculty**

**Head of the Department**