Faculty of Engineering and Technology			
Ramaiah University of Applied Sciences			
Department	Computer Science and Engineering	Programme	B. Tech in Computer Science and Engineering
Semester/Batch	06th /2017		
Course Code	CSC310A	Course Title	Compilers
Course Leader	Mr. Hari Krishna S. M. & Ms. Suvidha		

Assignment					
Register No.		**Name of the Student**			
Sections		**Marking Scheme**	**Marks**		
			Max Marks	**First Examiner Marks**	**Moderator**
Part A 1					
	A 1.1	Identification and grouping of Tokens	04		
	A 1.2	Implementation in *Lex*	02		
	A 1.3	Design of Context Free Grammar	04		
	A 1.4	Implementation in *Yacc*	06		
	A 1.5	Results and Comments	04		
		Part-A 1 Max Marks	**20**		
	Total Assignment Marks		**20**		

Course Marks Tabulation				
Component- CET B Assignment	**First Examiner**	**Remarks**	**Second Examiner**	**Remarks**
A.1				
Marks (out of 20)				

Signature of First Examiner **Signature of Moderator**

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Please note:

1. Documental evidence for all the components/parts of the assessment such as the reports, photographs, laboratory exam / tool tests are required to be attached to the assignment report in a proper order.
2. The First Examiner is required to mark the comments in RED ink and the Second Examiner's comments should be in GREEN ink.
3. The marks for all the questions of the assignment have to be written only in the **Component – CET B: Assignment** table.
4. If the variation between the marks awarded by the first examiner and the second examiner lies within +/- 3 marks, then the marks allotted by the first examiner is considered to be final. If the variation is more than +/- 3 marks then both the examiners should resolve the issue in consultation with the Chairman BoE.

Assignment

Instructions to students:

1. The assignment consists of **1** questions: Part A – **1** Question.
2. Maximum marks is **20**.
3. The assignment has to be neatly word processed as per the prescribed format.
4. The maximum number of pages should be restricted to **15**.
5. The printed assignment must be submitted to the course leader.
6. **Submission Date:**
7. **Submission after the due date is not permitted.**
8. **IMPORTANT**: It is essential that all the sources used in preparation of the assignment must be suitably referenced in the text.
9. Marks will be awarded only to the sections and subsections clearly indicated as per the problem statement/exercise/question

Preamble:

The aim of this course is to train the students in the design and implementation of compilers and various components of a compiler, including a scanner, parser, and code generator. The students are exposed to GNU compiler, construction tools and their application. Students are trained to design and implement a compiler for a simple language.

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PART – A **(20 Marks)**

Develop a compiler for a subset of C language with the following features:

- Minimum two data types
- Minimum two control statements
- Minimum two looping statements
- Input-output functions
- Compound statements and two-dimensional Array
- Assume Operators, Symbols and Reserved keywords

Your report should include:

A1.1 Identification and grouping of Tokens
A1.2 Implementation in *Lex*
A1.3 Design of Context Free Grammar for each function
A1.4 Implementation in YACC
A1.5 Results and comments