



# SATHYABAMA

INSTITUTE OF SCIENCE AND TECHNOLOGY  
(DEEMED TO BE UNIVERSITY)

Accredited "A" Grade by NAAC | 12B Status by UGC | Approved by AICTE

[www.sathyabama.ac.in](http://www.sathyabama.ac.in)

## ASSIGNMENT – I

### COMMON TO B.E/B.Tech(CSE/IT)

**Program : B.E. (Computer Science and Engineering)**

**Max. Marks : 15**

**Course : Compiler Design**

**Course Code : SCSA1204**

**Sem : VI**

**Batch : 2019 - 2023**

**Due Date : 09.01.2022**

**Part-A**

**Answer ALL the questions**

**(5×1=5)**

### Multiple Choice Questions and Fill in the Blanks

1. Type checking is done in the ..... phase of a compiler.
2. .... is the only phase which reads the entire source program.
3. Intermediate code is used for .....
  - a) Code check
  - b) Code optimization
  - c) Retargeting code
  - d) Token generation
4. LEX is a .....
  - a) parser generator
  - b) token generator
  - c) code generator
  - d) none of the mentioned.
5. A compiler for C language is available for a computer A. Which of the following statements is true?
  - a) It can be used for computer A only
  - b) It works on any computer with similar processor and OS
  - c) It works on any computer with similar processor, OS and peripherals.
  - d) It can be used on any computer.

**Part-B****Answer ALL the questions****(5×1=5)****Short Answers**

1. Differentiate between compiler and interpreter.
2. What are the error recovery modes in Lexical Phase of the compiler?
3. Identify lexemes and generate tokens for the given input source code(in tabular form):

```
int radius = 5;
float area;
if(radius > 0)
{
    area = 3.14 * radius * radius;
}
```

4. Construct transition diagram for the following:
  - a. relop >=
  - b. floating point number – (eg. 3.14)
5. What is Input Buffering?

**Part-C****Long question****(1×5=5)**

2. Construct the NFA for the given regular expression using Thompson's Construction Method.

$((\epsilon|a)b^*)^*$