CSE 3211 COMPILER DESIGN LAB

END SEMESTER EXAM-2020

Duration: 1.5 Hrs writeup+30 mins upload **Date: 04/06/2020**

Note.

1. **Write your name, Roll No, section and registration number on your answer sheet without FAIL.**
2. **Upload GOOD quality image of the handwritten scanned document.**
3. **Write-Up time is 1 hr 30 minutes and remaining 30minutes is for uploading the answer script.**
4. **Strictly adhere to the timings as LATE submissions are not allowed without prior permission.**

a. interfaceDecl→ int_mod interface id extends ex_interfaces interf_body
int_mod → public | private| abstract | ε
ex_interfaces→ interfacetype | ex_interfaces , interfacetype
interf_body→ { int_mem_declarations }
int_mem_declarations→ int_mem_dec | int_mem_declarations int_mem_dec
int_mem_dec→ const_declaration
const_declaration→ constmod type constid-list ; const_declaration | ε
constid-list→ id | id, constid-list | id [number], constid-list | id [number]
constmod→public | static | final
type→ int | float| boolean
interfacetype→ id

Grammar G

Design a Lexical Analyzer which contains getNextToken () that returns one token at a time and implement a Recursive Descent parser which accepts the token generated from getNextToken( ) as input and displays the input is successfully parsed or not. No need to write code for symbol table. (**Note:** Assume the preliminary scanning has already been done) **(7+8 M)**

b. Write a FLEX code for the above Grammar G to recognize all the tokens. **(5M)**

Sample input:

```
public interface abc extends a1, b1  {
                                        public int a, c, b[20];
                                                }
```

Sample Output for Part a)

public-keyword
abc –identifier
extends – keyword
a1 – identifier
.
.
.
; - Semicolon
} – Right Curly Brace or RCB

SUCCESS!!!

Sample output for Part b)

public-keyword
abc –identifier
extends – keyword
a1 – identifier
.
.
.
; - Semicolon
} – Right Curly Brace or RCB