DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

NITK SURATHKAL

SEM – V

CS 305 – COMPILER DESIGN LAB

Semantic Phase Exercises

Date: 14. 10. 2020

Time: 2pm to 4 pm **Max Marks: 20**

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1. Consider the below C code snippet:

```
int var=1;
switch(var)
{
        case 0:
                printf("It's case 0");
                break;
        case 1:
                int a,b;
                char c;
                scanf("%d%d", &a, &b);
                c+=(a+b)*5;
                break;
        default:
                break;
}
```

a) Write a CFG for the above statements.
b) Implement Lex and Yacc program to recognize the above statements using the CFG written in (a). You should transform your grammar, as necessary, to eliminate conflicts.
c) Include semantic actions for each production in the grammar. Do type checking and evaluate the expressions.
The output should represent whether the above statements are valid or not. If it is not valid, display the semantic errors if any.

Upload the following files in moodle.

1. CFG and Code.
2. Output

Note: Outputs in the form of screenshots alone will be considered for evaluation.