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Roll No .....

CS-701 (GS)

B.E. VII Semester Examination, June 2020

Grading System (GS)

Compiler Design

Time : Three Hours

Maximum Marks : 70

Note: i) Attempt any five questions.
ii) All questions carry equal marks.

l. Construct a DAG for the basic block whose code is given below:
D: = B * C
E: = A + B
B: = B * C
A = E – D

2. Prove that Grammar is CLR but not LALR
S → Aa / bAc / Bc / bBa
A → d
B → d

3. Distinguish between top-down passing and bottom-up parsing? What is the largest class of grammars that can be parsed by each of them?

4. What are the typical entries in a symbol table, what are the various data structures used to implement the table.

5. How does an Operator Precedence poner work? Use a pre-constructed operator precedence table to guide the parsing of an input 'a+b–20' using operator precedence parser.

6. Define a Quadruple. How is it different from triples? Convert the following expression into three address code and quadruple.
S = (a + b) / (c – d)∗ (e + f)

7. Construct the DAG for the following basic block:
a : = b + c
b : = b – d
c : = c + d
e : = b + c

OR

What do you mean by LEX? Explain in detail.

8. Write short notes:(Any two)
a) Local and Loop optimization
b) Peephole optimization
c) Dead code elimination

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