Total No. of Questions : 8] *[Total No. of Printed Pages : 2*

Roll No .....

CS-701-GS

B.E. VII Semester

Examination, December 2020

Grading System (GS)

Compiler Design

Time : Three Hours

Maximum Marks : 70

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

1. a) What is front end and back end of compiler? What are the advantages of breaking up the compiler functionality into these two stages?
   b) What are the various components of lexical specification file? Illustrate with an example.

2. a) Illustrate the steps in the parsing of an input '$x = y + z - 5$;' by an LR parser using a predictive constructed LR passing table.
   b) Distinguish between top-down passing and bottom-up parsing? What is the largest class of grammars that can be parsed by each of them?

3. Explain various dynamic storage allocation techniques.

4. Discuss the role of lexical analyzer in detail.

5. What do you mean by Bootstrapping of compiler?

6. What do you mean by LEX? Explain in detail.

7. a) What are the fundamental differences between parse tree and abstract syntax tree?
   b) 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.

8. a) Describe the synthesis-analysis model of compiler?
   b) Discuss input buffering and preliminary scanning in lexical analysis.

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