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Roll No .....

CS-603(C)-CBGS

B.Tech., VI Semester

Examination, December 2020

Choice Based Grading System (CBGS)

Compiler Design

Time : Three Hours

Maximum Marks : 70

Note: i) Attempt any five questions.

ii) All questions carry equal marks.

iii) In case of any doubt or dispute the English version question should be treated as final.

1. a) Describe the various data structures used in Compilers.

   b) What are Compiler construction tools? Write note on each compiler construction tool.

2. a) Explain in detail the various phases of compiler with an example.

b) Define :

i) Tokens
ii) Input buffering
iii) LEX

3. a) Explain the various errors encountered in different phases of Compiler.

b) Differentiate :

i) Top down Vs Bottom up parsing
ii) Predictive Vs Operator precedence parsing

4. a) Construct a Syntax Directed Translation Scheme that translates arithmetic expressions from infix into postfix notation.

b) Explain the symbol table management system.

5. a) Check whether the given grammar is LL(1) or not

(1) h¡ ¶m Zht

S → iEt SS' / a
S' → eS / E
E → b

b) Explain in detail different dynamic storage allocation strategies.

6. a) Construct DAG for the following expression :

   a + a * (b – c) + (b – c) * d

   b) Discuss the issues in design of Code generator.

7. a) Explain the following with example.

   i) Strength reduction
   ii) Variable propagation
   iii) Common sub expression elimination

   b) Describe Peephole optimization briefly. Also explain Backpatching.

8. a) Explain the basic block and control flow graph.

   Basic

   b) Explain data flow analysis of structure flow graph.

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