

10/11/19
930-1230

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Paper Code: TCS-601/TIT-601

End Semester Special back Examination, 2018-19

B. Tech (CS and IT) 6th Semester

Paper Name: Compiler Design

MM: 100

Time: Three Hours

Note:

- i. This question paper contains five questions.
- ii. All questions are compulsory.
- iii. Instructions on how to attempt a question are mentioned against it.
- iv. Total marks assigned to each question are twenty.

(2*10=20)

1) Attempt any two questions of choice from a, b and c.

- (a) Explain Analysis-Synthesis Model of compilation.
- (b) Explain one pass and multi pass compiler.

(c) Explain the phases of compiler with help of example.

(2*10=20)

2) Attempt any two questions of choice from a, b and c.

- (a) What is operator precedence grammar? Explain with example.
- (b) Write down rules for Predictive parser. Explain with example.
- (c) Explain shift-reduce parser with help of example.

(2*10=20)

3) Attempt any two questions of choice from a, b and c.

- (a) Define Syntax Directed Definition (SDD). Compare between S-attributed and L-attributed definition.
- (b) What is dependency graph? Explain with example.
- (c) Explain different methods of Syntax directed Translation(SDT).

(2*10=20)

4) Attempt any two questions of choice from a, b and c.

- (a) What is Back-patching? Explain with example.
- (b) Give the semantic rules for following grammar:
 - (i) $S \rightarrow \text{if } (B) \text{ then } S_1 \text{ else } S_2$
 - (ii) $S \rightarrow \text{while } (B) \text{ then } S_1$

(c) Write down semantic rules for declaration statement.

(2*10=20)

5) Attempt any two questions of choice from a, b and c.

- (a) Give the rules for constructing basic block & flow graph with suitable example.
- (b) Discuss different issues regarding Code Generation with example.
- (c) Describe Dominators with help of example.