

72463**B. E./B. Tech. 7th Sem. (CSE)****Examination – December, 2019****COMPILER DESIGN****Paper : CSE-405****Time : Three hours] [Maximum Marks : 100**

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note : Attempt *five* questions, selecting at least *one* question from each Section. Question No. 1 is *compulsory*. All questions carry equal marks.

1. Explain the following :

- (a) Input buffering types with examples. 5
- (b) Ambiguous Grammar and the solution to make it unambiguous. 5
- (c) Three address code. 5
- (d) Differentiate between Arrays and Link list. 5

SECTION – A

- 2. (a) What is Compiler ? Explain the different type of compilers with proper examples. 10
- (b) What is Finite Automata ? Compare and contrast the DFA and NFA with an example. 10
- 3. (a) What is the difference between Single and Multi-pass Compiler ? Explain in detail. 10
- (b) Explain the different constituents of Lexical analysis in detail with suitable examples. 10

SECTION – B

- 4. (a) What is Grammar ? Explain the different type of grammars with examples. 10
- (b) What is Shift Reduce Parsing ? What is the mechanism of SRP and explain it with the help of an example. 10
- 5. (a) How the implementation of syntax analyzer is done ? Explain with proper example. 10

- (b) What is Predictive Parsing ? Explain with suitable examples. 10

SECTION – C

6. (a) Explain the LALR parser with proper example. How it is different from other parsers ? 10
- (b) What is syntax directed translation ? Explain the implementation of syntax directed translation. 10
7. (a) What is the difference between parse tree and syntax tree ? Explain with example. 10
- (b) Differentiate the different LR parsers with suitable examples. 10

SECTION – D

8. (a) What is error in program ? Explain the different type of errors with proper examples. 10
- (b) What is code optimization ? Explain the different methods of code optimization. 10

9. (a) What is Symbol Table ? Explain the implementation of Symbol Table in memory. 10
- (b) How register allocation for temporary variables method is used as optimization technique ? Explain in detail. 10

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