

Code No: 156CP**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD****B. Tech III Year II Semester Examinations, August - 2022****PRINCIPLES OF COMPILER CONSTRUCTION****(Common to IT, ITE)****Time: 3 Hours****Max.Marks:75**

Answer any five questions
All questions carry equal marks

- 1.a) What is the need for a compiler? Explain various phases in compiler construction.
b) Define token. Explain how it is represented. [10+5]
- 2.a) Give the Lex program structure with an example for identifying keywords in 'C' language.
b) Convert 01^*+11 Regular expression to NFA and DFA. [8+7]
- 3.a) Define context free grammar, parse tree and syntax tree.
b) Explain the steps to construct SLR parsing table. [6+9]
- 4.a) What is left factoring and left recursion in context free grammars? Explain the steps to eliminate these in context free grammars.
b) Write an algorithm for working principle of predicate parser. [8+7]
- 5.a) What are S-attributes and L-attributes grammar? Explain with an example.
b) Explain the SDD specification of simple type checker. [7+8]
- 6.a) Explain various forms of intermediate code.
b) Write the three address code for "if and while" statements. [9+6]
- 7.a) Compare various storage allocation methods.
b) What is DAG? Explain its representation for a basic block. [7+8]
- 8.a) Explain the principle source of code optimization.
b) Write about data flow analysis of structured program. [8+7]

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