Reg. No. :

Question Paper Code:46201

B.E. / B.Tech. DEGREE EXAMINATION, AUGUST 2021

Sixth Semester

Computer Science and Engineering

14UCS601–PRINCIPLES OF COMPILER DESIGN

(Regulation 2014)

Duration: 1:45 hour   Maximum: 50 Marks

PART A - (10 x 2 = 20 Marks)

(Answer any ten of the following questions)

1. Define tokens, Patterns and lexemes.

2. Eliminate left recursion from the grammar $A \rightarrow Ac \mid Aad \mid bd \mid \varepsilon$..

3. What is back patching?

4. Define basic blocks and flow graphs.

5. What are the properties of optimizing compilers?

6. Depict diagrammatically how a language is processed.

7. Describe the role of lexical analyzer.

8. List the properties of LR parser.

9. Mention the two rules for type checking.

10. What is the use of Next-use information?

11. What is meant by semantic analysis?

12. Describe the role of lexical analyzer.

13. What is meant by left factoring?

14. Mention the two rules for type checking.

15. What are the properties of optimizing compilers?

PART – B (3 x 10= 30 Marks)

(Answer any three of the following questions)

16.   Explain in detail the process of compilation. Illustrate the output of each phase of compilation for the input position=initial+rate *10   (10)

17.   Obtain the minimized state DFA for the regular expression (a/b)*abb using subset construction method.   (10)

18.   Find the LALR for the given grammar and parse the sentence (a + b) * c   (10)

$$E \rightarrow E + T \mid T ,$$

$$T \rightarrow T * F \mid F ,$$

$$F \rightarrow (E) / id.$$

19.   Explain the Specification of simple type checker for statements, expressions and functions.   (10)

20.   Draw the DAG for the following three address code.

d = b * c   e = a + b   b = b * c   a = e - d.   (10)

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