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Reg. No:.....

Name:

FAROOK COLLEGE (AUTONOMOUS), KOZHIKODE
Third Semester M.Sc Degree Examination, November 2016
CSS3C02 - Principles of Compilers
(2015 Admission onwards)

Max. Time: 3 hours

Max. Weightage: 36

Part A

Answer all questions

1. Explain left factoring.
2. Explain Left recursion.
3. What is the value of k in LR(K)parser?
4. Explain DAG.
5. What is a basic block?
6. Define activation tree.
7. Why shift reduce parsers follows reverse of right most derivation?
8. What is coercion?
9. What is the meaning of analytical phase in compiler?
10. Interpreter is slow. Why?
11. What is the meaning of compiler to compiler?
12. Explain regular grammar.

(12 x 1 = 12)

Part B

Answer any six questions

13. How many states are needed to denote the expression $(0+1)(0+1)\dots\dots\dots n$ times.
14. Design a minimal state DFA in which the set of all strings over $\{0,1\}$ where the 10^{th} symbol from the right end is 1.
15. Explain SR and RR conflicts.

16. Explain the role of lexical analyzer,
17. Explain Input Buffering.
18. Explain the different types of Intermediate code generation
19. Explain Flow graph.
20. Explain different parameter passing techniques
21. Explain function and operator overloading

(6 x 2 = 12)

PART C

Answer any three questions

22. Design a minimal state DFA which accepts even number of zeroes and odd number of ones
23. Design the LL(1) parsing table for the below grammar

$S \rightarrow A$

$A \rightarrow 0A/1B$

$B \rightarrow 1A/0$

24. Discuss the storage allocation strategies.
25. Discuss the code generation issues.
26. Explain the different types of machine dependent and machine independent optimizations
27. Find the FOLLOW() sets for the below mentioned grammar

$S \rightarrow aBDh$

$B \rightarrow cC$

$C \rightarrow bC/\epsilon$

$D \rightarrow EF$

$E \rightarrow g/\epsilon$

$F \rightarrow f/\epsilon$

(3 x 4 = 12)