CD QUESTION BANK – III

UNIT-I

1. Explain the role of Assembler, compiler, loader, and linker in the languageprocessing system?
2. Differentiate between Interpreter and Compiler?
3. Discuss in brief about Left Recursion and Left Factoring with an example.
4. Explain about Language preprocessing system in detail?
5. Explain the Structure of Compiler in detail?
6. Explain Lexical Analysis with an example?
7. What is the Role of Lexical Analyzer?
8. Explain Specifications and Recognition of Tokens.
9. Define Regular Expressions? Write about the identity rules for regular expressions?
10. Conversion of Regular expression to Finite Automata.
11. Explain the Minimization of DFA with an example.
12. Explain Input Buffering?
13. Explain Bootstrapping in detail with an example.

UNIT-II

14. Explain Syntax Analysis
15. Differentiate the Top Down parsing and Bottom Up parsing.
16. Write the properties if LR parser with its structure. Also explain the technique of LR parser
17. Explain Recursive desent parsing with explain.
18. Explain Predictive parsing technique
19. Explain LR and LALR parsing techniques with examples.
20. Explain Operator Presedence parsing technique with example.
21. Explain the Error recovery parsing technique.
22. Explain Handling Ambiguous Grammar.
23. Construct Predictive Parsing table for the following Grammar and check whether the grammar is LL (1) or not and Obtain the sequence of move made for the String

    1. String W=abba,

S->aBa, B->bB/€

2. String w=id+id*id,
   E->E+T/T, T->T*F/F, F->(E)/id
3. S->aBDh, B->cC, C->bc/€, D->EF, E->g/€, F->f/c
4. String W=((a),a)
   S->(L)/a, L->L,S/S

24. Construct SLR parsing table for the following grammar.
    1. E->E+T/T
       T->TF/F
       F->F*/a/b
    2. A->(A)/a
       A->(A)
       A->a
25. Construct LALR parsing table for the given grammar,
    1. S->L=R/R
       L->*R/id
       R->L
    2. S->CC
       C->cC/d
    3. S->AaAb
       S->BbBa
       A->€
       B->€
26. Explain about YACC (Automatic Parser Generater) in detail.

UNIT-III

27. Explain Semantic Analysis in Detail.
28. Explain Three Address code in detail.
29. Write quadraples, triples and indirect triples for the following expression: -(a*b)+(c+d)-(a+b+c+d)
30. Explain about Syntax Direct translation(SDT).
31. Explain in detail about type checking.
32. What is symbol table? Explain how the hash table is used to construct a symbol table.
33. Explain organization for block structured languages and uses of Symbol table.
34. What is an Activation record? Explain the components with example.

35. What is non block structure storage allocation and explain the terms Static, runtime, stack and heap storage allocation.

UNIT-IV

36. Draw and explain the runtime memory organization static storage allocation strategies with pros and cons.
37. Explain Stack allocation of space in detail.
38. Compare static and dynamic memory allocations.
39. Explain about Access to non local data on the stack in detail.
40. Explain about the Heap Management.
41. Illustrate issues in Code Generation.

UNIT-V

42. Explain code optimization in detail
43. What are the properties of code generation phase and also explain the design issues of this phase
44. Explain in detail the optimization technique " Strength Reduction".
45. Explain in detail about Data flow analysis?
46. Explain terms copy propogation and dead code elimination.
47. Explain terms Constant folding and Loop Optimization.
48. Explain instruction scheduling and inter procedural optimization in detail.
49. What is DAG explain about it.
50. State the efficient Data Flow Algorithm.
51. ;fgExplain Peephole optimization techniques