Total No. of Questions:

Total No.of Pages:

Roll No. _____

B.Tech.V-Sem.(Back)Exam 2024
Computer Sc. & Engg.
5CS4-02Compiler Design
5E1352
CS,IT

Time: 3 Hours

Maximum Marks: 120
Min. Passing Marks: 42

Attempt all ten questions from Part A, five question out of seven from Part B and four questions out of five from Part C.

Schematic diagrams must be shown wherever necessary. Any data you feel missing suitably be assumed and stated clearly. Units of quantities used/ calculated must be stated clearly. Use of following supporting material is permitted during examination. (Mentioned in form No.205)

1._____ 2._____

Part A (Answer should be given up to 25 words only)
All questions are compulsory

Q1. Write the differences between compilers and interpreters?
Q2. What is a precedence of a parse tree?
Q3. What are the various phases of a compiler?
Q4. What is symbol table?
Q5. Define parser.
Q6. Why lexical and syntax analyzers are separated out?
Q7. Define ambiguous grammar.
Q8. List the characteristics of peephole optimization.
Q9. List the properties of LR parser?
Q10. What are the problems with top down parsing? **10 x 2 = 20**

Part B(Analytical/Problem solving questions)
Attempt any Five questions

Q1. Explain DFA and NFA with an Example?
Q2. Construct the LL (1) Parsing table for the following grammar?
E→E+T|T
T→ T*F
F→ (E) | id
Q3. What is the Lexical analyzer? Discuss the Functions of Lexical Analyzer.
Q4. What is YACC? Explain how do you use it in constructing the parser using it.

Q5. What is a operator precedence parser?List the advantages and disadvantages of operatorprecedence parsing.
Q6. Explain Peephole Optimization in detail.
Q7. What are three address codes? Explain different types of representation of three address code? **5 x 8 =40**

Part C(Descriptive/Analytical/Problem Solving/Design questions)
Attempt any four questions

Q1. Explain the procedure to remove the ambiguity from the given grammar with your own example?
Q2. What is DAG? Explain the applications of DAG. Construct the DAG for the following basic block:
D := B*C
E :=A+B
B := B+C
A := E-D
Q3. What are the storage allocation strategies? Explain different storage allocation strategies in detail.
Q4. Explain the following
a) Parameter passing
b) conical LR parsing
c) Loop optimization

Q5. What is LEX? Discuss the usage of LEX in lexical analyzer generation? **4 x 15 = 60**