R16

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B. Tech III Year II Semester Examinations, December - 2019
COMPILER DESIGN
(Common to CSE, IT)

Time: 3 hours   Max. Marks: 75

Note: This question paper contains two parts A and B.
Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART - A
(25 Marks)

1.a)	What is Language Processor?	[2]
b)	Differentiate between pass one and pass two of a compiler.	[3]
c)	Define context free grammar.	[2]
d)	What do you mean by ambiguous grammar? Give example.	[3]
e)	Convert the expression a= b*-c + b*-c into three Address statements.	[2]
f)	What is an attribute? Explain different types of attribute?	[3]
g)	List the different storage allocation strategies.	[2]
h)	What are the sub problems in register allocation strategies?	[3]
i)	Give the applications of DAG.	[2]
j)	What is the role of flow graph optimizing a compiler?	[3]

PART - B
(50 Marks)

2. With a neat diagram explain the phases of a compiler in detail. [10]
OR
3. Give an example to design an automaton from a given regular expression. [10]

4. Test whether the grammar is LL(1) or not and construct a predictive parsing table for it
S→iEtS|iEtSeS|a   E→b [10]
OR
5. Construct an LALR parsing table for the following grammar: [10]
E→E+T|T   T→T*F|F   F→ (E) | id

6. Write syntax directed definition for flow of control statements. [10]
OR
7. Write the three address code sequence for the d:=(a-b)+(a-c)+(a-c). [10]

8. Give example to explain peephole optimization technique in detail. [10]
OR
9. Write in detail about the issues in the design of code generator. [10]

10. With an example explain common sub expression and dead code elimination methods in detail. [10]
OR
11. What is DAG and flowgraph? Explain their role in compilation process. [10]

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