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Total Number of Pages : 01

MCA
MCC404

4th Semester Back Examination 2017-18

COMPILER DESIGN

BRANCH : MCA

Time: 3 Hours

Max Marks : 70

Q.CODE : C914

Answer Question No.1 which is compulsory and any five from the rest.

The figures in the right hand margin indicate marks.

Answer all parts of a question at a place.

- Q1 Answer the following questions: (2 x 10)**
- a) Write the difference between compiler and interpreter.
 - b) What is the language of the RE $0(0|1)^*00$?
 - c) Differentiate between L-attributed and S-attributed grammar.
 - d) How DAG is different from the syntax tree?
 - e) What do you mean by panic mode of error recovery?
 - f) What are the tasks performed by the Lexical Analyzer?
 - g) What is meant by handle pruning?
 - h) What are the different types of intermediate representations?
 - i) Define back patching.
 - j) What is code motion?
- Q2 With one suitable example explain the different phases of compiler. (10)**
- Q3 For the following grammar construct SLR parser and parse(a,a, \wedge) (10)**
- $S \rightarrow a | \wedge | (R)$
 $T \rightarrow S, T | S$
 $R \rightarrow T$
- Q4 a) Construct the DAG for the expression $-(a+b)^*(c+d)-(a+b+c)$ (5)**
- b) Generate the three address code for (5)**
- ```
While(i<=10){
 A[i]=0;
 i=i+1;
}
```
- Q5 a) Convert the RE  $(a|b)^*bba$  directly to DFA. (5)**
- b) Discuss the error recovery methods in lexical and syntax analysis phase. (5)**
- Q6 a) Discuss various storage allocation strategies in detail. (5)**
- b) Discuss different issues of code generation. (5)**
- Q7 a) What is syntax directed translation? Define attribute grammar. Explain with example. (5)**
- b) What do you mean by code Optimization? Explain various code Optimization Techniques with a suitable example. (5)**
- Q8 Write Short notes on (Any TWO) : (5 x 2)**
- a) Peep hole optimization
  - b) LEX
  - c) Activation Record