24488

B. Tech. 7th Semester (CSE)
Examination – May, 2015

COMPILER DESIGN

Paper : CSE-405-F

Time : Three Hours]   *[Maximum Marks : 100*

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note : Attempt *five* questions. Question No. 1 is *compulsory*. Select one question from each Section.

1. (a) What is the need of translator ?

    (b) What is the role of lexical analyzer ?

    (c) What is top down parsing ?

    (d) What is the role of parser.

(e) What is LALR ?

(f) Compare parse tree and syntax tree.
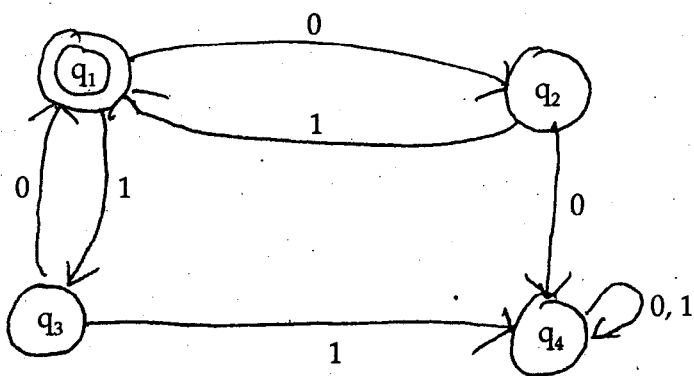
(g) What is symbol table ?

(h) What do you mean by DAG ?

SECTION – A

2. What is compiler ? Explain different phase of compiler. Also describe various compiler construction tool.

3. (a) What is regular expression ? Find the regular expression correspondence to

(b) How to minimize number of state of DFA ? Explain with example.

SECTION – B

4. What do you mean by grammar ? Explain Context Free Grammar ? Write a CFG for the regular expression $r = 0^* 1(0 + 1)^*$.

5. What is parsing ? Explain shift reduce parsing and operator precedence parsing technique. Check whether following grammar is operator precedence grammar.

$$E \rightarrow E + T/T \qquad E \rightarrow T * F/F \qquad F \rightarrow (E)/id$$

SECTION – C

6. Write quadruples, triples and indirect triples for the expression .

$$- (a + b) * (c + d) - (a + b + c)$$

7. (a) Define SLR ? Write a algorithm for construction of and SLR parsing table.

(b) What is Canonical LR parsing ? Explain with example.

SECTION – D

8. What is error ? Explain the various types of error generated during various phase of compiler. How does we remove from these error ?

9. (a) What is code optimization ? Explain.

   (b) Explain how CPU Register are allocated while creating machine code ?

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