

Roll No. ....

**2416**

**B.E. (7th Semester) (CSE)**  
**Examination– December, 2013**

**COMPILER DESIGN**

**'E' Scheme**

**Paper : CSE-405-E**

***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 any *five* questions.

**1. (a)** Briefly describe the following terms :

(i) Translators

(ii) Compilers

(iii) Interpreters

(iv) Assemblers

(v) Compiler Construction tools. 5 x 2 = 10

(b) Describe the different phases of compiler. 10

**2. (a)** What is Input Buffering ? Explain. 10

- (b) Explain the role of Lexical analyzer. 10
3. (a) Devise a mechanism to convert NFA to DFA. 10
- (b) Draw the NFA for regular expression  
 $((a/b)^*c)^* | (ab)^* | ba$  10
4. (a) What do you mean by a grammar ? What are its components ? Why does one use context free grammars ? 10
- (b) Define ambiguous grammar ? Identify the reasons for ambiguities. Explain with example. 10
5. What are the characteristics of operator grammar ? How does one construct the operator precedence table? Explain with an example. Also discuss the limitations of operator precedence parser. 20
6. (a) What are viable prefixes ? Describe the process of parsing the language using LR parser. 10
- (b) Discuss the process of constructing LR(O) parsing table. 10
7. (a) What do you mean by term "three address code" ? Enumerate the features of three address code. 10

(b) What are the attributes associated with a symbol table ? Discuss the operations possible with a symbol table. 10

8. (a) List out the main sources of optimization. 6

(b) What do you mean by common subexpression ?  
What are the advantages of identifying it. 7

(c) Define dead Code. What are the causes of dead code ? 7