

**I.D. No. 24488**

**B.Tech. 7th Semester F. Scheme (Computer Science**

**Engineering-VIII) Examination, May-2014**

**COMPILER DESIGN**

**Paper-CSE-405-F**

*Time allowed : 3 hours]*

*[Maximum marks : 100*

**Note :** *Question number 1 is compulsory. Attempt any five questions in total by selecting one question from each of the four sections.*

1. (a) What is lookahead operator in compiler design ? 5  
(b) What is lexical phase error ? 5  
(c) Differentiate Lexeme, Token and pattern. 5  
(d) What is backpatching ? 5

**Section-A**

2. (a) What is translator ? Differentiate between compiler and interpreter. 10  
(b) Explain various phases of compiler. 10
3. (a) Explain the compiler construction tools. 10  
(b) Briefly explain cross compilation. 10

**Section-B**

4. Design a top-down parser for the following CFG G and parse the word aaabba 15

$S \rightarrow XY$

$X \rightarrow aX|b$

$Y \rightarrow bY|a$

- (b) What is handle pruning. 5

**I.D. No. 24488-P-2-Q-9 (14)**

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( 2 )

**I.D. No. 24488**

5. (a) Explain LALR parser. Explain the algorithm for constructing LALR parsing table. 10
- (b) Explain shift reduce parsing with the help of example. 10

**Section-C**

6. What is symbol table ? Explain the data structures used to construct symbol tables. 20
7. (a) Discuss about syntactic and semantic phase errors. 8
- (b) What is three address code ? Explain the type of three address statements. 12

**Section-D**

8. Explain the various issues in the design of a code generator. 20
9. (a) Explain PEEPHOLE optimization technique. 10
- (b) Explain dead code elimination with the help of example. 10