

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.