

# ***B. Tech Degree VI Semester Examination April 2011***

## **CS 601 COMPILER CONSTRUCTION (2006 Scheme)**

Time : 3 Hours

Maximum Marks : 100

### **PART – A (Answer ALL questions)**

(8 x 5 = 40)

- I. (a) Draw and explain the interaction of lexical analyzer with parser.  
(b) Describe the terms tokens, patterns and lexemes.  
(c) Write the various Error recovery strategies.  
(d) Write the algorithm for computing FIRST(X) and FOLLOW(X).  
(e) Write a note on Synthesized Attributes and Inherited Attributes.  
(f) What are the various static checks?  
(g) Write the three address code corresponding to the expression  
 $a := b^* - c + b^* - c$ .  
(h) What is meant by Back patching?

### **PART – B**

(4 x 15 = 60)

- II. (a) Describe the concept of recognition of tokens with the help of neat transition diagrams. (8)  
(b) Write a short note on Compiler Construction Tools. (7)
- OR**
- III. (a) Describe the design of a Lexical Analyzer Generator. (10)  
(b) Write a note on Input Buffering. (5)
- IV. (a) Write the algorithm for eliminating Left Recursion. (7)  
(b) Describe the stack implementation of Shift Reduce Parsing. What is meant by Handle Pruning? (8)
- OR**
- V. (a) Write the features of LR parsers. (7)  
(b) Explain the Operator Parsing Algorithm with the help of an example. (8)
- VI. (a) Describe the Bottom-up Evaluation of Inherited Attributes. (7)  
(b) Write a short note on various methods for evaluating semantic rules. (8)
- OR**
- VII. (a) Write a note on Activation Trees. (5)  
(b) Explain various storage allocation strategies. (10)
- VIII. (a) Describe various types of three Address Statements. (5)  
(b) Write a note on structure preserving transformations on basic blocks. (10)
- OR**
- IX. (a) Explain various mechanisms for Run Time Storage Management. (7)  
(b) Describe various principal sources of optimization. (8)