

Exam. Code : 105704

Subject Code : 1556

B.Sc. Information Technology Semester—IV**COMPILER DESIGN****Paper—V**

Time Allowed—3 Hours]

[Maximum Marks—75

Note : Attempt any **five** questions. All questions are of equal marks.

1. Describe the various phases of compiler and trace it with the program segment (position : = initial + rate * 60).
2. (a) Differentiate between top-down and bottom-up parsing.
(b) Explain the role of Lexical analyzer.
3. What is a Symbol Table ? What are its contents ? Discuss the operations on symbol tables.
4. Compare and discuss static and dynamic storage management techniques.
5. What do you mean by code optimization ? What are its advantages and disadvantages ? Discuss various types of code optimization schemes in detail.

6. Explain code generator algorithm. Given the expression :
 $W := (a-b) + (A-C) + (A-C)$. Translate into three-add-code sequence showing code generated, register descriptor and add descriptor.
7. What are the various types of compilers ? Discuss the features of Incremental Compilers in detail.
8. Write short notes on the following :
 - (a) Shift reduce parsing
 - (b) Dead code elimination
 - (c) Peephole optimization.