Tribhuvan University
Institute of Science and Technology

2071(I)

Bachelor Level/ First Year/ First Semester/ Science   Full Marks: 60
Computer Science and Information Technology (CSc. 352)   Pass Marks: 24
(Compiler Design and Construction)

Candidates are required to give their answers in their own words as for as practicable.
The figures in the margin indicate full marks.

Attempt All the Questions

1. Explain the various phases of compiler in detail with practical example.
2. Explain about design of lexical analyzer generator with its suitable diagram.
3. What are the problem with top down parsers? Explain the LR parsing algorithm.
4. Define finite automata. Construct a finite automata that will accept a string at zeros and ones that contains an odd number of zeros and an even number of ones.
5. What are the different issues in the design of code generator? Explain with example about the optimization of basic blocks.
6. What are the main issues involved in designing lexical analyzer? Mention the various error recovery strategies for a lexical analyzer.
7. Define a context free grammar. What are the component of context free grammar? Explain.
8. What are the various issues of code generator? Explain the benefits of intermediate code generation.
9. Explain the peephole organization. Write a three address code for the expression
   a.   r; = 7*3+9.
10. Differentiate between Pascal compiler and C++ compiler.