

7. Explain the following :

- (a) Construction of syntax trees
- (b) Data structures for symbol table

Unit-IV

8. (a) What do you mean by code generation? Explain in detail the concept of Problems in code generation.
- (b) What is code optimization? Explain the principle sources of optimization.

9. Explain the following in detail :

- (a) DAG representation of basic blocks.
- (b) Peephole optimization.

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Roll No.

67075

**M.C.A. 2nd Sem.
(with new note - M.M. 80
w.e.f. May, 2013)**

Examination-May, 2016

**Principles of Systems Programming &
Compiler Design (New)**

Paper-MCA-205

Time : 3 hours

Max. Marks : 80

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard will be entertained after the examination.

Note : Attempt **five** questions in all. Question Number **1** will be **compulsory**. In addition to compulsory question, student will have to attempt **four** more questions selecting at least **one** question from each unit. All questions carry equal marks.

1. (a) What is system programming? Explain.

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[Turn Over

- ✓ (b) What are text editors? Explain.
- ✓ (c) What is regular expression?
- ✓ (d) What is post fix form? Explain.
- ✓ (e) What is loop optimization?
- ✓ (f) What is Register allocation?
- ✓ (g) Differentiate between compiler and interpreter.
- ✓ (h) What do you mean by syntax analyzer?

Unit-I

2. Explain the following in detail :

- (a) Evolution of the components of system programming.
- (b) Software tools

3. (a) What do you mean by Macro? How macros are expanded? What is conditional macro expansion? Also differentiate between macro & subroutine.

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- ✓ (b) What are the various loader schemes? Explain with suitable example.

Unit-II

4. What is compiler? Explain the common compiler features that are largely independent of machine. Explain the various issues related to the design of a compiler. Also explain the differences between incremental and cross compilers.

5. Explain the following in detail :

- (a) Lexical analyzer and Finite-Automata
- (b) Recursive descent parsing and Predictive Parsers

Unit-III

- ✓ 6. (a) What is Symbol table? Explain the contents of symbol table.
- ✓ (b) Write a detail note on Runtime storage administration.

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