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.

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.

(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.

(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.