Roll No…… Total Pages: 3

10501

MCA/M-18

SYSTEM PROGRAMMING

Paper: MCA-14-21

Time: Three Hours Maximum Marks: 80

Note: Attempt five questions including No. 1 which is compulsory. All questions carry equal marks

Compulsory Question

1.(a) "Multiplication by two is replaced by left shift operation".Name the type of code optimization.

(b) Give a formal definition of regular grammar.

(c) What is dirty programming?

(d) What is forward refrence?

UNIT-I

2.What is symbol table?What purpose are served by it?What are the different ways to implement symbol tables?Discuss in brief.

3. (a) What is system software? How is it different from application software?Discuss.

(b) What is complication?What are the main activities performed during complication? Discuss.

UNIT-II

4.What is a two-pass assembler? Write a detailed note on the activities performed by it during both the passes.

5. What do you understand by macro? How is the macro-expansion carried out? Explain.

UNIT-III

6. (a) What do you understand by ambiguous grammar? Which one of the following is an ambiguous grammar? Explain,(i) A-> aA | Aa | e.

(b) What is the difference between loader and linker? Also differentiate between

compile – time linking and dynamic linking using suitable examples.

7. (a) What is the difference between absolute and relocatable loader?Explain.

   (b) What is Chomsky hierarchy of formal grammars? What type of grammar is used by scanner? Discuss.

UNIT-IV

8. (a) What do you understand by dead code elimination code optimization? Discuss.

   (b) What is the difference between pure and impure interpreters? Discuss.

9. (a) What do you understand by post-fix notation and expression tree? Explain the process of construction of the expression tree from the following post-fix expression usion stack:ab+cde+**.

   (b) What is the difference between local global code optimization? Explain using suitable examples.