

P1677

[5058]-166

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T.E (Information Technology)
SYSTEM SOFTWARE PROGRAMMING
(2008 Course) (Semester II)

Time : 3 Hours]

[Max. Marks : 100

Instructions to the candidates:

- 1) Attempt Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6 from Section I and Q.7 or Q.8, Q.9 or Q.10, Q.11 or Q.12 from section II.*
- 2) Answer to the two sections should be written in separate answer books.*
- 3) Neat diagrams must be drawn whenever necessary.*
- 4) Figures to the right side indicate full marks.*
- 5) Assume suitable data if necessary.*

SECTION-I

Q1) a) Describe assembler directives LTORG, ORIGIN, EQU, END with respect to Pass I of two Pass assembler. **[8]**

b) What is System software? Explain examples of system software. **[8]**

OR

Q2) a) Describe Pass I Algorithm with example and show the contents of symbol table, Literal Table, Pool table and intermediate code form. **[12]**

b) Explain the term back-patching. **[4]**

Q3) a) What is Macro? Explain Macro call and Macro Expansion in Macro processor with suitable example? **[6]**

b) Explain the actual arguments and dummy arguments with examples. **[8]**

c) Enlist different data structures required during Pass I and Pass II of two pass Macro Processor. **[4]**

OR

Q4) a) Explain following term with macro. **[12]**

i) Expansion time variable.

ii) Keyword and positional parameters.

b) Differentiate between subroutine and macro. **[6]**

Q5) a) Describe Shift Reduce Parser with suitable examples. **[8]**

b) Differentiate between compiler and Interpreter. **[2]**

c) Write short note on problems with top down parsing. **[6]**

OR

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- Q6) a)** Explain following. [10]
 i) Lexical Analyzer
 ii) Bottom up parsing
b) Explain Ambiguous grammar in Compilers. Explain with example. [6]

SECTION-II

- Q7) a)** What is the purpose behind code optimization? What are the criteria for code optimization? [8]
b) Describe any two intermediate code formats with example. [8]

OR

- Q8) a)** What are the issues in code generation? [8]
b) Generate intermediate code for the statement given below in the format of [8]
 $S = (a+b) / (c-d)$
 i) Postfix notation
 ii) Parse tree
 iii) Quadruple
 iv) Triple

- Q9) a)** Compare: Dynamic loading and Dynamic linking. [6]
b) What is loader? Enlist the basic functions of a loader? [6]
c) Explain [6]
 i) Overlay structure,
 ii) Linkage editor

OR

- Q10)a)** Draw the flow chart for Pass II of direct linking loader. [12]
b) Explain with flow chart, design of absolute loader. [6]

- Q11)a)** Explain the following language processor tools. [8]
 i) LEX
 ii) YACC
b) Write a short note on Debug Monitor. [4]
c) Differentiate between Line and Screen Editor. [4]

OR

- Q12)a)** With the help of diagram, Explain user interface and its use in software applications. [6]
b) Describe various types of editor? Explain with the help of block diagram of typical editor structure. [10]