CSG-IV Sem. 2011

4E2017

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4E2017

B. Tech. (Sem. IV) (Reback) Examination, June/July - 2011
Computer Engg.
4CS4 System Software Engineering

Time : **3** Hours] [Total Marks : **80**
[Min. Passing Marks : **24**

*Attempt overall **five** questions. Selecting **one** question from each unit. All questions are carry **equal** marks.*
(Schematic diagrams must be shown wherever necessary. Any data you feel missing may suitably be assumed and stated clearly). Units of quantities used/calculated must be stated clearly

Use of following supporting material is permitted during examination.
(Mentioned in form No. 205)

1. Nil 2. Nil

Unit - I

1 (a) Differentiate application and system programming ? How does system programming is further classified ? 8

(b) Explain internal and external representation of instruction and data ? 8

OR

1 (a) How does hashing improves the performance of searching ? Explain hash table organization in detail. 8

(b) Explain the type and structure of editors in detail. 8

Unit - II

2 (a) Explain the use of literals in assembly language. How does they differ from constants and immediate operands ? 4

(b) Explain pass I of a two pass assembler with the help of example. Also show the constants of various data structures after pas I for your example. **12**

OR

2 (a) Whether cross reference table is necessary in designing of 8088 IBM - PC assembler ? Give answer with reason. **4**

(b) Explain the algorithm of single pass assembler of IBM PC. **12**

Unit - III

3 (a) What do you understand by program relocation ? Explain. **4**

(b) Explain various components of the object module of a program. **4**

(c) What are various machine dependent and independent features of a loader. **8**

OR

3 (a) What is overlay structured program ? How does linking is performed in these overlays. **8**

(b) Explain pass I of MS - DOS linker. **8**

Unit - IV

4 (a) Write a macro to evaluate the expression A*B+C*D using conditional macro expansion. **8**

(b) Explain following features of macro with example :

(i) Nesting

(ii) Keyword and positional parameters **8**

OR

4 (a) Write the algorithm for processing of macro definition. **8**

(b) Write short note on MASM macro processor. **8**

Unit - V

5 (a) Show the step by step passing of following string using operator precedence passing :

$\vdash$id *(id + id) *id$\dashv$ **10**

(b) What do you understand by lexical ambiguity and how would you avoid it. **6**

OR

5 (a) Write a recursive decent parser for following grammer after rewriting the grammer in required format :

$E \rightarrow E+T|E-T|T$

$T \rightarrow T*V|T/V|V$

$V \rightarrow id$ **8**

(b) Explain the role of language processor development tools. **8**
