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06CS52

**Fifth Semester B.E. Degree Examination, December 2010**

**System Software**

Time: 3 hrs.

Max. Marks:100

**Note: Answer any FIVE full questions, selecting  
at least TWO questions from each part.**

**PART – A**

- 1
  - a. Give the target address generated for the following machine instruction:  
 i) 032600h    ii) 03C300h    iii) 0310C303h  
 if (B) = 006000, (Pc) = 003000, (X) = 000090. (06 Marks)
  - b. With respect to Pentium pro architecture, explain the following : (10 Marks)  
 i) Instruction format                  ii) Registers                  iii) Data format                  iv) Addressing mode.
  - c. Write sequence of instruction for SIC to clear 20 byte string to all blanks. (04 Marks)
- 2
  - a. Define assembler directive. Explain the different types of directives used in SIC m/c. (08 Marks)
  - b. What is the need of pass 2 assembler? Reason out with a simple example. (04 Marks)
  - c. Give an algorithm for pass 1 of 2 pass assembler. (08 Marks)
- 3
  - a. Differentiate between literal and an immediate operand. Give an example for each. (05 Marks)
  - b. Define control section. How does control section differ from the program blocks? Explain with an example. (10 Marks)
  - c. With an example, explain the multipass assembler. (05 Marks)
- 4
  - a. What do you mean by relocating loaders? Explain the method for relocation as a part of object program. (10 Marks)
  - b. Explain, with a figure, dynamic linking. Discuss its advantage. (10 Marks)

**PART – B**

- 5
  - a. List the task performed by document linking process in an interactive system. (04 Marks)
  - b. Give the relationship between editing and viewing process. (06 Marks)
  - c. Explain the features of interactive debugging system. (10 Marks)
- 6
  - a. List m/c independent macro processor features. Explain any two with an example. (10 Marks)
  - b. With an illustrative example, explain the macro processing features of MASM macro process. (10 Marks)
- 7
  - a. Explain the structure of Lex program, with an example. (06 Marks)
  - b. Give regular expression for the following : (06 Marks)  
 i) 'C' – variables                                  ii) Integer data                                  iii) Floating point data
  - c. Write Lex program to count the number of words in a text file. (08 Marks)
- 8
  - a. Explain shift reduce parsing, with an example. (06 Marks)
  - b. Write yacc program to recognize the given arithmetic expression containing +, -, /, × operator with + and – having highest precedence. (08 Marks)
  - c. What do you mean by ambiguous grammar? How it can be overcome? Illustrate with an example. (06 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.  
 2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.

