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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 :
 i) 'C' – variables ii) Integer data iii) Floating point data (06 Marks)
- 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)

