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10CS52

Fifth Semester B.E. Degree Examination, June/July 2013
System Software

Time: 3 hrs.

Max. Marks:100

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

PART – A

- 1 a. Bring out the difference between system software and application software. (06 Marks)
b. With respect to Pentium pro architecture, explain the following :
i) Instruction format ii) Data format iii) Registers iv) addressing mode. (10 Marks)
c. Write sequence of instruction for SIC to clear 20 bytes strings to all blanks. (04 Marks)
- 2 a. Write the fundamental functions of assembler. (05 Marks)
b. Define assembler directive. Explain the different types of directives used in SIC machine. (07 Marks)
c. Write and explain the algorithm of PASS – 1 of two – pass assembler. (08 Marks)
- 3 a. Distinguish between literal and immediate operands. How does the assembler handle the literal operands? (07 Marks)
b. What is a program block? How does the assembler handle the program blocks? (10 Marks)
c. What is the need of pass – 2 algorithms? Give example. (03 Marks)
- 4 a. Write a bootstrap loader algorithm. Explain it. (08 Marks)
b. Illustrate linking and relocation with sample programs. (12 Marks)

PART – B

- 5 a. With a neat diagram, explain the structure of text editor. (10 Marks)
b. Explain the features of interactive debugging system. (10 Marks)
- 6 a. List machine independent macro processor features. Explain any two with an example. (10 Marks)
b. What are the basic functions of macroprocessor? Explain the various data structures used in the implementation of one – pass macroprocessor. (10 Marks)
- 7 a. List and explain the different design options for a macroprocessor. (12 Marks)
b. Explain the structure of LEX program. (05 Marks)
c. Explain the “communication parser”. (03 Marks)
- 8 a. Write a LEX program to count the number of vowels and consonants in a given string. (06 Marks)
b. Write a YACC program to recognize the given arithmetic expression containing +, -, /, * operator. (08 Marks)
c. What do you mean by ambiguous grammer? How it can be overcome? Illustrate with an example. (06Marks)

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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.