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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 atleast 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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