USN | | | | | | | | | | |

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.*

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.

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)**

* * * * *