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Third Semester M.C.A Degree Examination, January/February 2005
Master of Computer Applications
Systems Programming

Time: 3 hrs.]

[Max.Marks : 100

Note: Answer any FIVE full questions.

1. (a) Describe the following with respect to SIC m/c
 - i) memory
 - ii) Register
 - iii) Data formats (6 Marks)
- (b) Write sequence of instruction for s/c to clear a 20 byte string to all blank (6 Marks)
- (c) Write a note on architecture of cray T3E m/c (8 Marks)
2. (a) Explain any five assembles directives with example (10 Marks)
- (b) Differentiate between literal and immediate operand with example. (4 Marks)
- (c) Explain briefly how control sections are handled SIC/xE m/c (6 Marks)
3. (a) What are the data structures used in the design of 2-pass assembles. Explain. (10 Marks)
- (b) Explain the following with respect to assemble design
 - i) Expression
 - ii) Symbol defining statement. (10 Marks)
4. (a) With programming example explain a simple bootstrap loader (10 Marks)
- (b) Explain with an example how relocation can be done by using
 - i) modification record
 - ii) Relocation bit mask (10 Marks)
5. (a) Differentiate between functions and macros. (6 Marks)
- (b) Explain how labels are handled in MASM assembles (4 Marks)
- (c) Write a note on
 - i) Concatenation of macro parameter
 - ii) Recursive macro expansion (10 Marks)

6. (a) Give a complete BNF notation for the following statements used in pascal.
- i) Declaration statement
 - ii) Assignment statement
 - iii) Read statement (10 Marks)
- (b) Explain with an example recursive descent passes (10 Marks)
7. (a) Briefly explain the structure of YACC program with example? (10 Marks)
- (b) Explain the following terms with respect to LEX, give an example to each
- i) yylex() ii) yyin
 - iii) yyleng iv) yytext
 - iv) yywrap()
8. Write a short notes on
- i) AIX assembles
 - ii) Linkage editor
 - iii) Conditional macro expansion
 - iv) P-code complier (20 Marks)

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