



NEW SCHEME

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Fifth Semester B.E. Degree Examination, July/August 2005
Computer Science / Information Science and Engineering
System Software

Time: 3 hrs.]

[Max.Marks : 100

Note: Answer any FIVE full questions.

1. (a) Explain data format, instruction format and addressing modes of SIC/XE machine architecture. (10 Marks)
- (b) What are the fundamental functions that any assembler must perform? With suitable example explain any six assembler directives. (10 Marks)
2. (a) Explain the two major internal data structures used in simple assemblers. Give reason for using that data structures. (10 Marks)
- (b) With required data structures & processing logic, explain the implementation of literals within an assembler. (10 Marks)
3. (a) Explain the structure and design of one pass assemblers. (10 Marks)
- (b) Explain the two methods for specifying relocation as a part of object program. (10 Marks)
4. (a) What do you mean by dynamic linking? Explain the process of loading and calling of subroutine using dynamic linking. (10 Marks)
- (b) What is an interactive editor? Explain the structure of a typical editor. (10 Marks)
5. (a) Explain the different debugging functions and debugging capabilities. (10 Marks)
- (b) What is the work of microprocessors? Explain the basic concept of macro processing. (10 Marks)
6. (a) Explain the basic functions of a simple one-pass compiler in brief. (10 Marks)
- (b) What is compiler - compilers? Explain the process of using typical compiler-compiler. Mention advantages & disadvantages. (10 Marks)

7. (a) What is a regular expression? Briefly explain all the characters that form regular expression. (14 Marks)

(b) Explain the three basic sections of lex program. (6 Marks)

8. Write a short note on the following :

a) RISC V/s CISC

b) SPARC assembler

c) Bootstrap loaders

d) Block structured languages

(4×5=20 Marks)

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