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**Question Paper Code : 51349**

B.E./B.Tech. DEGREE EXAMINATION, MAY/JUNE 2014.

Fifth Semester

Computer Science and Engineering

CS 2304/ CS 54/ CS 1304 A/ 10144 CS 505 — SYSTEM SOFTWARE

(Common to Information Technology)

(Regulation 2008/2010)

(Common to PTCS 2304—System Software for B.E.(Part-Time) Fourth Semester  
CSE—Regulation 2009)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Distinguish between system software and application software.
2. Write the sequence of instructions for SIC to set ALPHA equal to integer portion of BETA/GAMMA. Assume that ALPHA and BETA are RESW 1.
3. Define program relocation.
4. Give the use of literal pool.
5. When is an absolute loader useful?
6. List the record types used in MS-DOS linker.
7. What is macro-time variable? Give its purpose.
8. Give the features of ANSI C macro.
9. What are the advantages of debuggers?
10. Give the significance of user interface.

PART B — (5 × 16 = 80 marks)

11. (a) Illustrate the comparison between SIC and SIC/XE machine architecture.  
Or  
(b) Explain the instruction set and addressing modes supported by SIC/XE.



12. (a) Describe the data structures and algorithms of a two pass assembler.

Or

(b) (i) Explain the machine independent features of an assembler. (12)

(ii) Give the flow for a simple one-pass load and-go assembler. (4)

13. (a) Describe the data structures and algorithms for a linking loader.

Or

(b) (i) How can you load and call subroutines using dynamic linking? (8)

(ii) Explain the differences between linking loader and linkage editor. (8)

14. (a) Illustrate the data structures and algorithms used for designing a two pass macro processor.

Or

(b) Describe the following:

(i) Conditional macro expansion (8)

(ii) Recursive macro expansion (8)

15. (a) (i) Describe the structure of an editor. (12)

(ii) List out the steps involved in the document-editing process. (4)

Or

(b) Explain how the interactive debugging systems provide the testing and debugging to the programmers.

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