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V 4544

B.E./B.Tech. DEGREE EXAMINATION, APRIL/MAY 2008.

Third Semester

(Regulation 2004)

Computer Science and Engineering

CS 1203 — SYSTEM SOFTWARE

(Common to Information Technology)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Brief about Data formats and Instruction formats of SIC.
2. Define System software and System program.
3. What is program relocation? Why it is required?
4. With reference to assembler brief about Literals and Expressions.
5. Give any two disadvantages and advantages of one pass assembler over multipass assembler.
6. What is a bootstrap loader? Why is it required?
7. What is Dynamic linking? Mention its functions.
8. What are the advantages of using line by line macro processor?
9. What are the functions of MASM Macro processor?
10. Why text editors are required? Mention the names of any four editors known to you.

PART B — (5 × 16 = 80 marks)

11. (a) Explain in detail the different stages of the SIC machine architecture.

Or

- (b) What are the data structures used in Assembler? Discuss how these structures are organised?

12. (a) Explain in detail about the one pass assembler with required data structures and algorithm.

Or

- (b) Explain in detail the features of the MASM assembler for pentium system.

13. (a) Briefly describe the (i) Basic Loader functions and (ii) Features of machine-dependent loader.

Or

- (b) Explain in detail about (i) Linkage Editors and (ii) Dynamic Linking.

14. (a) What are the different features of machine-independent Macro processor? Explain in detail any two of them.

Or

- (b) Briefly explain about (i) Recursive macro expansion and (ii) ANSI C macro language.

15. (a) Discuss about the

- (i) Various features that a basic text editor should possess.
(ii) Interactive debugging systems.

Or

- (b) Briefly discuss about

- (i) Concatenation of macro parameters.
(ii) Generation of unique labels.