C 140

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2005.

Third Semester

Computer Science and Engineering

(Common to Information Technology)

CS 1203 — SYSTEM SOFTWARE

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What is the use of SVC instruction in SIC?

2. What are the additional registers provided in SIC/XE than SIC?

3. Define multiprogramming.

4. What is a program block?

5. What is a Bootstrap loader?

6. What is the use of linkage editor?

7. List the statements present in a macro definition.

8. What is a nested macro call? How is it expanded?

9. What is a placeholder?

10. What are the roles of a dialog manager?

PART B — (5 × 16 = 80 marks)

11. (i) State and explain the PASS I algorithm of an Assembler. (11)

    (ii) With an example, explain the concept of program relocation. (5)

12. (a) Explain in detail the architecture of a SIC machine and SIC/XE machine. (16)

Or

(b) Write short notes on :

   (i) Data formats and instruction formats. (10)

   (ii) I/O programming. (6)

13. (a) With examples, explain the machine independent features of a loader. (16)

Or

(b) With diagrams, explain how loading and calling of a subroutine is done using dynamic linking. (16)

14. (a) (i) State and explain the algorithm for one pass macro processor. (8)

   (ii) What are the different data structures used by a macro prqcessor? Explain. (8)

Or

(b) Explain in brief about

   (i) Macro expansion. (8)

   (ii) MASM macro processor. (8)

15. (a) (i) With a neat block diagram, explain the different components of an editor structure. (10)

   (ii) How are user interfaces useful? Explain. (6)

Or

(b) Discuss in detail about an interactive debugging system. (16)

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