B.E./B.Tech. (Full Time) ARREAR EXAMINATIONS, OCT/NOV/DEC 2011

INFORMATION TECHNOLOGY

V SEMESTER

IT371- SYSTEM SOFTWARE

(REGULATION – 2004)

Time: 3 hr Max. Mark: 100

Instructions: 1. Answer all questions in Part – A.

2. Q.No.11.a. in Part – B is compulsory.

Answer ALL Questions

Part – A (10 x 2 = 20 Marks)

1. State the differences between system software and application software?
2. Write the set of instructions for performing arithmetic operations in SIC machine.
3. List the data structures associated with assemblers.
4. What is the use of literals in assembly language?
5. What are the data structures associated with loaders?
6. Mention two advantages of binding at load time over binding at assembly time.
7. What is the use of macros in SIC/XE program.
8. Define Macro Expansion.
9. What is role of filtering and formatting in text editor?
10. Why must the debugger communicate and cooperate with other operating system components?

PART – B (5 x 16 = 80 Marks)

11. a. Explain in detail about machine independent macro processor features. (16)

12. a. Explain in detail about the SIC Machine architecture and write sample code for data movement operations (16)

(or)

b. Explain in detail about the SIC/XE Machine architecture and write sample code for indexing and looping operations. (16)

13. a. Describe in detail about the algorithm for two-pass assembler. (16)

(or)

b. Explain the various machine dependent assembler features. (16)

14. a. Explain the algorithm for pass 1 and pass 2 of a linking loader. (16)

(or)

b. Explain in detail about the following loader design options.

(i) Linkage Editors (7)

(ii) Dynamic Linking (7)

(iii) Bootstrap Loaders (2)

15. a. (i) Explain the overview of the text editing process. (4)

a.(ii) Illustrate and explain the typical text editor structure. (12)

(or)

b. Explain functions, capabilities and user interface criteria in an interactive debugging systems. (16)