B. Tech Degree V Semester (Supplementary) Examination July 2010

CS/IT 502 SYSTEM PROGRAMMING

(2006 Scheme)

Time : 3 Hours

Maximum Marks : 100

PART - A

(Answer *ALL* questions)

(8 x 5 = 40)

I. (a) Define an assembler and its functions.
(b) How are the symbol defining statements handled by assemblers?
(c) What is the function of a loader? Explain the algorithm for an absolute loader.
(d) What are linkage editors?
(e) What is a macro? Differentiate between macro and subroutine.
(f) Explain conditional macros.
(g) What is the function of OS? Discuss the different types of OS.
(h) Explain the hierarchical OS structure.

PART - B

(4 x 15 = 60)

II. With an example, explain the two pass assembler algorithm. (15)

OR

III. (a) What do you meant by forward reference? How is it solved by a single pass assembler? (8)
(b) Explain control sections and program linking. (7)

IV. Explain the algorithm and data structures for a linking loader. (15)

OR

V. (a) Explain dynamic linking. (7)
(b) What is program relocation and how is it handled? (8)

VI. (a) With an example, explain the various data structures used by a macro processor. (7)
(b) Write and explain the algorithms for a one pass macro assembler. (8)

OR

VII. (a) Explain recursive macro expansion. (8)
(b) What is a macro preprocessor? (7)

VIII. (a) What is a virtual machine? Explain the implementation of a virtual machine. (8)
(b) What are the different types of multiprocessor OS? Explain. (7)

OR

IX. Explain Distributed OS and Object Oriented OS. (15)

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