

# ***B.Tech Degree V Semester Examination November 2011***

## **IT/CS 502 SYSTEM PROGRAMMING** (2006 Scheme)

Time : 3 Hours

Maximum Marks : 100

### **PART A**

(Answer All questions)

(8x5=40)

- I. (a) Briefly explain five steps in translating a source program to object code.  
(b) Write a note on “simple object program format”  
(c) Give algorithm for absolute loader.  
(d) Briefly explain working of bootstrap loader.  
(e) What is a MACRO? Define and give its expansion?  
(f) Give macroprocessor algorithm.  
(g) Briefly explain four different types of OS.  
(h) What is a virtual machine?

### **PART B**

(4x15=60)

- II. (a) Give the algorithm of a 2 pass assembler. (10)  
(b) Explain functions of (i) OPTAB (ii) SYMTAB (5)
- III. (a) Explain the machine dependant assembler features. (7½)  
(b) What are the machine independent assembler features? (7½)
- IV. (a) Explain program linking and relocation. (10)  
(b) Give algorithm for linking loader. (5)
- V. Explain: (15)  
(i) Linkage editors  
(ii) Dynamic linking
- VI. Write short notes on: (15)  
(i) Keyword macro parameters  
(ii) Recursive MACRO expansion  
(iii) General purpose MACRO processor
- VII. Explain with help of MACRO, conditional assembly in MASM. (15)
- VIII. Explain any three machine independent operating system features. (15)
- IX. Explain memory management. (15)