

Roll No. ....

**24250**

**B. Tech. 5th Sem.  
(Information Technology) VI  
Examination – December, 2013**

**SYSTEM PROGRAMMING & SYSTEM ADMINISTRATION**

**'F' Scheme**

**Paper : IT-303-F**

***Time : Three hours ]***

***[ Maximum Marks : 100***

*Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complain in this regard, will be entertained after examination.*

**Note :** *Question number 1 is compulsory. Attempt one question from each section. All question carry equal marks.*

1. (a) Compare various translators. 4 × 5
  - (b) Describe user to user communication in Unix.
  - (c) Describe Absolute and Relative pathnames with example.
  - (d) Explain the booting process of Unix.

## SECTION – A

2. (a) Discuss various components of system programming in detail. 10
- (b) Explain the working of Incremental compiler with the help of block diagram. Why do we need incremental compiler? 10
3. (a) List out the functions performed by a loader. Explain the design and working of Direct Linking Loader. 10
- (b) Describe the working of 2-pass assembler with the help of flow chart. Also discuss the databases to be maintained for 2-pass assembler. 10

## SECTION – B

4. Describe a Macro, Macro call and Macro expansion. Explain the working of a Macro processor. Discuss the following features of Macro Facilities with examples: 20
- (i) Conditional Macro Expansion
- (ii) Macro Call within a Macro
5. (a) List out the main features of UNIX. Describe the architecture of UNIX operating system. 10

(b) Explain the following terms in reference to, UNIX File System: 10

- (i) Inode
- (ii) Blocks
- (iii) Fragments
- (iv) Directory Structure

### SECTION – C

6. Write down the UNIX commands with example for: 20

- (a) Searching for a pattern
- (b) Comparing files
- (c) Changing the file permissions
- (d) Rearranging the files

7. (a) Describe various commands used in AWK utility. 10

(b) Explain various methods of changing the file permissions in UNIX with example. 10

### SECTION – D

8. (a) Explain various shell programming constructs by giving suitable example. 12

(b) Write a program in C-shell to find the reverse of a number. 8

9. (a) Describe the architecture and some features of Linux operating system. 10

(b) How file system and disk are managed by system administrator in Unix? Explain with the help of commands. 10