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53 (CS 501) SYPR

**2013**

( December )

**SYSTEM PROGRAMMING**

Paper : CS 501

Full Marks : 100

Pass Marks : 30

Time : Three hours

***The figures in the margin indicate full marks for the questions.***

*Answer any five questions.*

1. (a) Describe briefly Translation hierarchy of a program. 10
- (b) Define and explain briefly various phases of Compiler with example. 10
2. (a) Define Macro and with example differentiate Macro call and Macro definition. 10
- (b) Explain the concept of Nested Macro call with example. 10

*Contd.*

3. (a) Explain the structure of two pass Assembly and define various tables used for LC processing. 10
- (b) Write the assembly code for calculating  $n!/2$ . 10
4. (a) Write the various elements and types of Assembly language statement. 10
- (b) Explain various functions of loader and its various schemes of loading. 10
5. (a) Write a shell script which will accept different numbers and find sum of digits. 10
- (b) Write a shell script to print the first even and odd numbers less than 30. 10
6. (a) Explain in detail basic concept of UNIX Operating System. 10
- (b) Write unix commands for the following : 10
- (i) To count no of lines, words and character in a file
- (ii) Searching a pattern within a file

(iii) To create a file system

(iv) To set working environment.

7. Write short notes on the following : 20

(i) Macro Expansion

(ii) CPU Scheduling

(iii) Memory Management

(iv) Functions of Operating System.