53 (IT 404) SYPR

2014

SYSTEM PROGRAMMING

Paper : IT 404

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 loader and its operation. Describe in brief different schemes of a loader.   10

   (b) Write an algorithm for the boot loader.   10

2. *(a)* With the help of a PLI program describe the step of intermediate form generation and code generation.   10

   (b) With the help of schematic diagram describe the working principle of compiler.   10

3. (a) Explain conditional macro expansion and nested macro definitions in detail. 10

   (b) Explain the parameter passing mechanism in MACRO. 10

4. (a) Write the basic task of Assembler. Write a program in machine language to substract a number 0·748 from each of five numbers 0·845, 0·876, 1·57, 0·926, 0·979.

   $$3+7=10$$

   (b) Write the algorithm and flowchart for the Pass I of the two pass assembler. $3+7=10$

5. (a) What is deadlock ? What are the *four* necessary conditions of deadlock preventions ? $2+4=6$

   (b) What is an Operating System ? List the typical functions of Operating System. 7

   (c) What is race condition ? Explain how does a critical section avoid this condition.

   $$3+4=7$$

6. (a) Explain the following commands : 10
      grep, tar, chown, chmod, expr.

(b) Describe in details, 2-pass MACRO Processor Algorithm. 10

7. Write short notes on : 4×5=20

(a) Demand Paging

(b) Instruction Formats

(c) Assembly Process

(d) Uniform Symbol Table.