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Number of Printed Pages—5

**CS-101**

**B. TECH.**

FIRST SEMESTER EXAMINATION, 2002-2003

**COMPUTER & LANGUAGES**

*Time : Two Hours*

*Total Marks : 50*

- Note :** (1) This question paper contains FOUR questions.  
(2) Attempt ALL the questions.

1. Attempt any FOUR of the following :— (3×4=12)

(a) What are the different sections of CPU ? Explain the functions of each of them.

(b) What is multiprogramming OS ? What are the main advantages of multiprogramming ?

(c) What purpose does the operating system serve to the computer ? Name various popularly used operating systems.

(d) What do you mean by DOS ? Write the DOS commands for the following operations :—

(i) to display all the files having the (.ext) extension but different file names.

(ii) to combine FILE 1 and FILE 2 into a new file name, FILE 3.

(iii) to move file from one directory to another.

(e) Explain the role of the following objects in Windows 95/98 :

(i) Control panel

- (ii) Desk Top
  - (iii) Recycle Bin
- (f) What do you mean by files and directories ?  
Explain their functions in brief.

2. Attempt any FOUR of the following :— (3×4=12)

- (a) Explain Environment Variables used in Unix.  
Which command is used for finding the values of environment variables ?
- (b) Give syntax and use of the following Unix commands :—
  - (i) grep
  - (ii) chmod
  - (iii) stty
- (c) Write commands to perform the following operations in EDIT, editor :—
  - (i) to cut a block
  - (ii) to paste the block
  - (iii) to find a text
- (d) Differentiate between —
  - (i) FTP & Telnet
  - (ii) HTTP & HTML
- (e) Write commands to perform the following operations in Vi editor :—
  - (i) to insert a text before the current position of a cursor.
  - (ii) to insert the text after the current position of a cursor.
  - (iii) to insert the text after the line in which the cursor is placed.

(f) What is Elm ? Write the steps to perform the following operations in Elm :—

(i) message composition

(ii) replying or forwarding a mail

(iii) print a message on a printer

3. Attempt any FOUR of the following :— (3 x 4=12)

(a) Explain the following terms :—

(i) Compiler

(ii) Interpreter

(iii) Linker

(b) Draw flow-chart for summing N natural numbers.

(c) List the advantages of higher level language over low level language.

(d) What do you mean by an identifier ? How is a user-defined identifier different from a keyword ?

(e) Write a C-program to calculate compound interest for the given principal amount, rate of interest and the number of years.

(f) Determine the value of each of the following expressions if  $i = 8$ ,  $j = 5$ ,  $x = 0.005$ ,  $y = -0.01$

(i)  $2 * x + (y == 0)$

(ii)  $(i > 0) || (j < 5)$

(iii)  $(x > y) \& \& (i > 0) \& \& (j < 5)$

4. Attempt any TWO of the following :— (7 × 2 = 14)

(a) Determine the output that will be generated by each of the following C-programs :—

```
(i) # include < stdio.h >
    int funct (int count);
    main ( )
    {
    int a, count;
    for ( count = 1; count <= 5; ++ count)
    {
    a = funct 1 (count);
    printf (" % d", a);
    }
    }
    int funct 1 (int x)
    {
    int y;
    y = x * x ;
    return ( y );
    }
```

```
(ii) # include < stdio.h >
    main ( )
    {
    int i, j, k, x = 0;
    for ( i = 0; i < 5; ++ i )
    for ( j = 0; j < i; ++ j )
    {
```

```

switch (i + j - 1)
{
case - 1:
case 0 :
    x+ = 1;
    break ;
case 1 :
case 2 :
case 3 :
    x+ = 2;
default :
    x + = 3 ;
}
printf (" % d", x );
}
printf (" \ n x =% d", x );
}

```

- (b) Write a C-program to sort an array of numbers. The maximum and minimum numbers along with their difference should be given as output.
- (c) (i) Write a C-program to display the address and the content of a pointer variable.
- (ii) What is a structure ? How does a structure differ from an array ?

