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No. of Printed Pages—4   CS–101/201

B. TECH.
SECOND SEMESTER EXAMINATION, 2002-2003
COMPUTER & LANGUAGES

Time : 2 Hours   Total Marks : 50

Note : Attempt **ALL** the questions.

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

(a) What is the purpose of command interpreter ? Why is it usually separate from the Kernel ?

(b) Differentiate between :

  (i) Primary and Secondary memories

  (ii) Data and Information

  (iii) Single user and Multiuser Operating systems

(c) What is virtual memory technique ?

(d) Describe how multiplatter disks are organized into tracks and sectors. How is information on the disk referenced ?

(e) State the purpose and syntax of the following DOS commands :—

  (i) X COPY

  (ii) ATTRIB

  (iii) PATH

  (iv) DISK COPY

  (v) PROMPT

(*f*) Write command(s) to perform the following operations in windows environment :—

(*i*) To create a shortcut of an application

(*ii*) To move a folder from one directory to another directory

(*iii*) To rearrange icons namewise on the desktop

(*iv*) To change the attributes of a file

(*v*) To search a file having name "UPTU.DOC"

(*vi*) To change the screen saver.

2. Answer any THREE of the following :— (4×3=12)

(*a*) In context to UNIX, state whether the following are True or False :—

(*i*) A file having protection 466 cannot be read by any body.

(*ii*) The ls–l < f-name > command shows whether f-name is a file or directory.

(*iii*) Only the owner of a file and the super-user can change the access permission of a file.

(*iv*) The rm–r command deletes the files and not the directories.

(*b*) Give any two commands which can change the Vi editors mode from escape to insert. How can you perform cut-paste and copy-paste operations in Vi ?

(*c*) Write short notes on any Two :—

(*i*) DNS   (*ii*) Web Browser   (*iii*) ELM

(d) What is URL ? Give the syntax of an URL by a suitable example.

(e) What is PINE ? How can you compose and send a message using PINE ?

3. Attempt any TWO of the following :—   (6·5×2=13)

(a) Answer the following in context to C :—

    (i) What is the purpose of escape sequences ?

    (ii) How does switch statement differ from nested if ?

    (iii) Why have all variables to be declared before they are used in a 'C' program ?

(b)(i) Determine the values of the following expressions if $a = 5$, $b = 3$, $c = -8$:—

    (1) a > b || a > c

    (2) c ! = (a + b)

    (3) a & b

    (4) a | b

    (ii) Why do successful compilation/execution of a 'C' program generate two additional files with extension . obj and . exe ? Explain.

(c)(i) Distinguish between the following :—

    (1) Call by value and Call by reference.

    (2) Struct and Union.

    (ii) Differentiate between :

    (1) int abc [5] [10] and int * b [5];

    (2) int *f^n (int); and int (*f^n)(int);

4. Attempt any TWO of the following :– (6·5×2=13)

(a)(i) Discuss different modes in which a file can be opened by giving suitable examples.

(ii) Write a 'C' program to rearrange a list of names in ascending order.

(b)(i) What will be the output of the following program ?

```
int  f (int)
main ( )
{
    int i ;
    for (i=1; i<5; i++)
        printf ("%d\n", f (i));
}
int f (int n)
{
    static int x=1;
    int y=3;
    x=n;
    return x+n+y;
}
```

(ii) Write a C program to convert all lowercase letters of an input string into uppercase and vice-versa.

(c)(i) int a[4] = {10, 20, 30, 40}, * p;
p=a;
what is meant by :
(1) P++
(2) *P
(3) *++P

(ii) Write a C program which accepts count and message on command line and prints message count number of times on the screen.