POKHARA UNIVERSITY

Level: Bachelor | Semester – Spring | Year : 2005
Programme: BE | Full Marks : 100
Course: Programming in C | Time : 3hrs.

Candidates are required to give their answers in their own words as far as practicable.

The figures in the margin indicate full marks.

Attempt all the questions.

1. a) Explain the classification of computers based on size and capabilities. 7

   b) What do you mean by a computer program and an algorithm? Describe the steps involved while developing a program. 8

2. a) Find the value of k; 4

```
int i = 4,j = 6, k = 7
k+=(5+i*j%7)*6/(i+j)-3;
```

   b) Find the value of x, y, z, w, p and q 5

```
int x=10,y=5,z,w=9, p,q;
x+=10;
y=x++;
z= – – x;
w/=x;
p=x+y;
q=p+w;
z=p++;
```

   c) 6

```
void main()
{
        int i,j,k=4;
        clrscr();
        for(i=1;i<=k;i++)
        {
                for(j=1;j<=i;j++)
                {
                        printf("%d",j);
                }
                        printf("\n");
                        }
                getch();
                }
```

3. A leap year is a year if year is divisible by 4, but not by 100. In case of divisible by 100, year should be divisible by 400 to be a leap year. Draw a flowchart and write a program to test given year is a leap year or not. 15

4. a) What is function? What are the differences between call by value and call by reference? Explain with suitable examples. 7

   b) Write a program to read two integer arrays and add into a third array and print three of them using pointers and user defined functions. 8

5. a) Define string. What are String handling functions in C? Give each function with meaning and syntax. 7

   b) Write a program to read a message and print changing the uppercase alphabets to lowercase and vice-versa. 8

6. a) Define Structure and Union. Give a example of Nested Structure. 7

   b) Write a program to create a structure for different students in a class with following: 8

   data: Roll No., Subject and Marks. Assume that there are 30 students in the class; all the information of the students should be written inside a file named "student.txt"?

7. Write short notes on (**Any Two**): 2x5

   a) Switch statement

   b) Break, continue and exit() function

   c) Macro & pre-processor directives

   d) Pointer arithmetic