POKHARA UNIVERSITY

Level: Bachelor | Semester – Fall | Year : 2010
Programme: BE | Full Marks : 100
Pass Mark : 45
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) What is a programming language? Differentiate between high level language and low level programming language. 8

   b) Define algorithm, flow chart and pseudo-code with example. Write an algorithm and draw a flow chart to find the largest among three numbers. 7

2. a) What are constant and variable? List the different types of operator used in C. Explain any four of them. 8

   b) What are different types of decision control mechanism used in C? Explain entry control and exit control loop with example. 7

3. What will be the output after executing the following codes

   a) 4

```
# include<stdio.h>
void main()
 {
        int x=10,y=20,z,k;

        z=++y/x--;
        y+=10;
        x+=20;
        y--;
        X++;
```

```
        z*=15
        k=(x= =y? (x+y):z);
        printf("x=%d\ny=%d\nz=%d\nk=%d",x,y,z,k);
}
```

b) 5

```
#include<stdio.h>
void main()
{
        int i, j;
        char str[]="POINTER";
        clrscr();
        for(i=0;str[i]!='\0';i++)
{
        for(j=0;j<=i;j++)
                printf("%c",str[j]);
        printf("\n");
}
}
```

c) 6

```
#include<stdio.h>
void disp(int*n);
 void main ()
   {
   int i;
    int marks []={15,16, 17, 18, 19, 20, 21, 22, 23, 24};
        disp(marks);
  }
```

```
void disp(int*n)
{
        int j, sum=0
        for(j=0,j<10;j++)
        {
        if(*n%3= =0)
        {
                printf("%d\t",*n);
                sum+=*n;
        }
        n++;
}
printf("\n Sum=%d", sum);
}
```

4. a) What is recursive function? Write a program to calculate n^{th} Fibonacci term using recursive function. 8

   b) Write a program to read matrix elements and calculate transpose of 4x5 matrix and print. 7

5. a) Write a program to sort n numbers in an array. 7

   b) Explain call by value and call by reference with examples. 8

6. a) Write a program to open a new file. Read name, address and telephone number of 10 persons from the user and then write to a file. Display only the records of persons whose address is Kathmandu. 8

   b) What is pointer? Write a program to print reverse elements of an array using dynamic memory allocation. 7

7. Differentiate between: **(Any Two)** 5x2

a) Macros and Functions

b) Structure and Union

c) Digital and Analog computer