

**COLLEGE OF ENGINEERING, PUNE**  
(An Autonomous Institute Of Government Of Maharashtra)

End-Sem Examination

**(CT 101) COMPUTER PROGRAMMING**

**Programme: F.Y.B.Tech(Div VI,VII,VIII,IX & X)**

**Year: 2008-09**

**Duration: 1 ½ hrs**

**Semester: Spring ( Re-exam )**

**Max.Marks: 50**

**Date: 18/04/2009**

Instructions:

1. Draw the diagrams whenever required.
2. Explain with suitable example, whenever required.

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Q.1 A What is the difference between a local variable and a data member? 02

B Examine the following code segment and indicate the output for each part. 03

```
if(x || y == x)    x += y;
else if(x < y && y) y += x;
else              y++;
cout << x << " " << y << endl;
```

- a. x is 0 and y is 1
- b. x is 8 and y is 8
- c. x is 0 and y is -1

C Write a program to produce a multiplication table for the integers 1 to 10 03

D What are the basic flowcharting symbols? What function does each represent? 02

Q.2 A Write short notes on: 04

- |                          |                                      |
|--------------------------|--------------------------------------|
| a) Data types            | b) Logical operators                 |
| c) Programming structure | d) Different way of calling function |

B Examine the following code. 03

```
cin >> x;
switch(x) {
    case -10: x += 15; break;
    case 5:
    case 0: x += 10; break;
    default: x++;
}
cout << x << endl;
```

- a. What is printed if the input is 5?
- b. What is printed if the input is -10?
- c. What is printed if the input is 10?

C Write a program to find whether the given number is a prime number or not. 03  
A prime number is a number not divisible by any other number.

```

#include<iostream>
using namespace std;
void callMe(int, int);
int main()
{
    int x, y, z;
    x = 40; y = 45; z = 50;
    callMe(x, y);
    cout << "In main(): " << x << " " << y << " " << z << endl;
}
void callMe(int x, int y) {
    int z;
    x = 20; y = 25; z = 30;
    cout << "In callMe(): " << x << " " << y << " " << z << endl;
}

```

B What gets printed from the code segment below? 01

```

int x = 2468;
cout << x % 10 << (x % 1000 / 10) << x / 1000;

```

C Write a program to manipulate the string with the following operations. 03  
a) Calculate the Length b) Copy the string c) Reverse the string  
d) Concatenation

D What is function overloading? Explain with examples. 03

OR

D Explain the purpose of a function parameter. What is the difference between a parameter and an argument? 03

Q.4 A Define array. How do you pass array to function? Explain with example. 04

B What is the output from the program below? 04

```

#include <iostream>
using namespace std;
void tester (int, int*);
int main()
{ int x = 64, y = 30, *p = &x, *q = &y;
  tester(x, q);
  cout << "In main: " << x << " " << y << " " << *p << " " << *q
  << endl;
}
void tester(int n, int *ptr)
{
  int x, y;
  x = 11; y = 55;
  n = *ptr % *ptr;
  *ptr = *ptr / x;
  cout << "In tester: " << x << " " << y << " " << *ptr << " " << n <<
  endl;
}

```

- C Mention differences between call by value and call by reference. 02  
 OR  
 C Write syntax of pointer. Explain concept of pointer. 02
- Q.5 A What is Structure and explain array of structures with suitable example. 03  
 OR  
 A Which header files using for i/o file operation. Explain i/o stream modes. 03
- B Consider the following complete C++ program. 04

```
#include<iostream>
using namespace std;
// prototype is a test question
int main(void)
{
  int A[6] = {22, 41, 19, 5, 67, 23};
  int x = 88, y = 9, *p;
  p = &y;
  parms(A, x, p);
  cout << "In main: " << x << " " << y << " " << A[3] << " " << *p
  << endl;
}
void parms(int A[], int num, int *ptr)
{
  num = 24;
  *ptr = num * 2;
  A[3] = A[4] / A[0]; // careful, integer division
  cout << "In parms: " << A[3] << " " << *ptr << endl;
}
```

- a. Write a prototype for parms().  
 b. What is the output?
- C Write a program that will set up a structure to hold a date. The structure will consist of three integer's values, for the month, day & year. Assign values to the member of the structures. Print out the values in the format 04/18/2009. 03