



Name : .....  
Roll No. : .....  
Invigilator's Signature : .....

**CS/B.Tech (BME)/SEM-4/CS-408/2010  
2010**

**INTRODUCTION TO PROGRAMMING**

Time Allotted : 3 Hours Full Marks : 70

*The figures in the margin indicate full marks.*

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

**GROUP - A**

**( Multiple Choice Type Questions )**

1. Choose the correct alternatives for the following :  $10 \times 1 = 10$

i) What would be the output of the following ?

```
#include <stdio.h>

main()
{
    int x, y, z;
    z = (x=6, y=2, x+y);
    printf ("z = %d, z);
}
```

- a) z = 5
- b) z = 3
- c) z = 8
- d) z = 1.





iv) The no. of bytes reserved for long int is

- a) 4
- b) 8
- c) 2
- d) 10.

v) The statement used to exit form the loop

- a) Break
- b) Exit
- c) Continue
- d) Goto.

vi) How many maximum no. of values stored in a [20][10] ?

- a) 50
- b) 100
- c) 150
- d) 200.

vii) All members of class are be default

- a) public
- b) private
- c) protected
- d) both (a) and (b).



viii) Example of pointer to a pointer is

- a) &a
- b) \*a
- c) \*\*a
- d) ->a.

ix) Example of derived data type in c is

- a) array
- b) enum
- c) typedef
- d) none of these.

x) Function used for inheritance in C++ is

- a) Virtual function
- b) Inline function
- c) Friend function
- d) Constructor.



**GROUP – B**

**( Short Answer Type Questions )**

Answer any *three* of the following.  $3 \times 5 = 15$

2. Write down the user defined data types and derived data types in C. Give an example of typed data type.  $1 \frac{1}{2} + 1 \frac{1}{2} + 2$
3. What is structure ? Write a program for finding the maximum wages and name of the employee. Use dynamic memory allocation.  $1 + 4$
4. Write down the difference between entry control loop and exit control loop. Give example of exit control loop. What is odd loop ?  $2 + 2 + 1$
5. Write a program of passing address to a function.  $5$
6. What is recursion ? Write down a program for implementing fibonacci series by using recursion technique.  $1 + 4$

**GROUP – C**

**( Long Answer Type Questions )**

Answer any *three* of the following.  $3 \times 15 = 45$

7. a) Write down the advantages of using User defined functions.
- b) Give an example of friend function.
- c) Differentiate class and object.
- d) Write down a program in C for converting the binary number into decimal number.  $2 + 5 + 3 + 5$



8. a) Write down the three basic features of object-oriented programming. Discuss each of them briefly.

b) What is the need for OOP over Structured programming ?

c) Write the difference between structure and class.

d) Write a program in C++ for matrix addition using operator overloading.  $5 + 3 + 2 + 5$

9. a) What is inheritance in OOP ?

b) Write down different types of inheritance.

c) Give an example of multilevel inheritance.

d) Discuss operator overloading with suitable example.

$$1 + 4 + 5 + 5$$

10. Write short notes on any *three* of the following :  $3 \times 5$

a) Inline Function.

b) Friend Function.

c) Virtual Function.

d) Data hiding.

e) Destructor.



11. a) Discuss the visibility of public, private and protected members.
- b) What is
- i) Automatic Variable
  - ii) Static Variable
  - iii) External Variable
  - iv) Register Variable ?
- 3 + 12
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