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RETEST EXAMINATION - 2019

Semester : 3rd

Subject Code : CAI-302

COMPUTER PROGRAMMING WITH C/C++

Full Marks - 70

Time - Three hours

The figures in the margin indicate full marks for the questions.

PART - A

Marks - 25

All the questions are compulsory.

1. Choose the correct answer : $1 \times 10 = 10$

(i) Preprocessor directive is represented by

(a) \$

(b) #

(c) *

(d) None of these

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(ii) While loop can be run at least,

- (a) one time, if condition is false
- (b) one time, if condition is true
- (c) many times, if condition is true
- (d) many times, if condition is false

(iii) Do-While loop cannot be run at least

- (a) one time, if condition is false
- (b) one time, if condition is true
- (c) many times, if condition is true
- (d) many times, if condition is false

(iv) Shell is used for interaction between shell and

- (a) user
- (b) kernel
- (c) hardware
- (d) None of these

(v) Which of the following is not valid as variable name ?

- (a) `_x`
- (b) `_32c`
- (c) `4_bb`
- (d) `A_10`

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(vi) Consider the statement.

```
int d = -(-a++);
```

what is the value of d, if a is 6 ?

- (a) -6
- (b) 6
- (c) -7
- (d) 7

(vii) If $b = 5$, then the value of $++b$ will be

- (a) 6
- (b) 5
- (c) 7
- (d) None of these

(viii) Syntax of for loop is

- (a) `for (; ;)`
- (b) `for (; ; ;)`
- (c) `for (; ;)`
- (d) None of these

(ix) Structure and union occupies,

- (a) same size
- (b) different sizes
- (c) None of these
- (d) No size

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(x) Logical OR operation is false when

- (a) both operands are true
- (b) both operands are false
- (c) any one operand is false
- (d) None of the above

2. Fill in the blanks (any five) :

1×5=5

- (a) Comparing two strings can be done by _____.
- (b) The size of a long integer is _____ bytes.
- (c) Switch is used with _____ in C language.
- (d) C++ language has been developed by _____.
- (e) C programs are compiled into obj with the help of _____. (an interpreter/a compiler)
- (f) _____ header file is related to mathematical function. (con1 0.h/math.h)



3. Write true or false :

1×10=10

- (a) When an array is declared, memory is reserved for it.
- (b) Void is a generic pointer.
- (c) Constructor gets called when an object is being created.
- (d) A break statement is used to stop the execution of a program.
- (e) A pointer variable stores the value of another variable.
- (f) '+' operators could be overloaded.
- (g) Destructor has a same name as the constructor and it is preceded by ~.
- (h) Through Polymorphism, we can eliminate redundant code and extend the use of existing classes.
- (i) The function fputs () takes three parameters.
- (j) A function may contain more than one return statement.

PART - B

Marks - 45

Answer any *three* questions.

- 4. (a) Write down the pre and post increment operator with the example. 5
- (b) What are the key differences between C and C++? 5
- (c) Explain recursion in C programming with example. 5

5. (a) Write down the output of this program.

```
#include<stdio.h>
int main()
{
    intx;
    for (x = -1 ; x > -9 ; x--)
    {
        if (x > 4)
        {
            Continue;
            Printf("programming in c");
        }
        else
        break;
    }
    Return 0;
}
```

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(b) What are the errors in this program ?

```
#include <stdio.h>
int main ( )
{
    void fun ( ) :
    int i=1;
    while (i<=5)
    {
        Printf("%d\n" , i);
        if (i>2)
        goto here;
    }
    Return 0;
}
void fun ( )
{
    Here;
    Printf ("it runs");
}
}
```

(c) Write down a C program to display the factorial of input number using the recursion.

4+4+7=15

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6. (a) Write a program to display the following number sequences : 7

- 1
- 1 2
- 1 2 3
- 1 2 3 4
- 1 2 3 4 5

(b) Write a program to display the following number sequences : 8

- 5
- 5 4
- 5 4 3
- 5 4 3 2
- 5 4 3 2 1

7. (a) Write down all the string related functions with the example. 8

(b) Write down a C program to calculate the value of 2^5 . 7

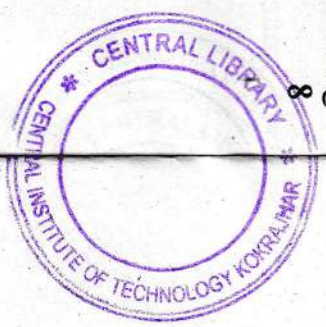
Or

Write down a C program to check the given number is prime or not. 7

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8. Differentiate between the following : (any three) $5 \times 3 = 15$

- (i) Structure and Union
- (ii) Inheritance and polymorphism
- (iii) Kernel and System calls
- (iv) While and For loop.



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