16/12/19

1C7112

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# 1C7112

## MCA I - Sem. (Main/Back) Exam., Dec. 2019

## MCA-102A Programming in C & C++

**Time: 3 Hours** **Maximum Marks: 80**
**Min. Passing Marks: 32**

*Instructions to Candidates:*
*Attempt all question. Marks of question are indicated against each question.*
*Use of following supporting material is permitted during examination. (Mentioned in form No. 205)*

1. NIL 2. NIL

Q.1 Answer the following question in 1-2 lines- [10×1=10]

(a) How are algorithms different from flowcharts?

(b) What are single comments in incorporated in C++?

(c) What is Keyword?

(d) What is String?

(e) What is dynamic memory allocation?

(f) What is system calls.

(g) Explain concepts of array.

(h) What is recursion?

(i) What is enumeration?

(j) Explain concept of files.

Q.2 Answer the following questions in 50 words. [5×3=15]

(a) What is data types? Explain in details.

(b) What do you understand of strings?

(c) Explain the feature of pointers.

(d) What are the uses of structure?

(e) What is call by value and call by reference?

Q.3 Answer the following questions in Approximately 150 words each: [5×4=20]

(a) What are friend functions? Explain with the help of an example.

(b) What a program to copy one string to another?

(c) Explain Conditional Statements with example.

(d) What is Data Validation? Explain.

Q.4 Write Short Notes (any two): [2×10=20]

(a) Malloc function

(b) Union and Structure

(c) Getchar ( ) and Putchar ( )

Q.5 (a) Write a program of Matrix multiplications with example. [15]

**OR**

(b) What is the base address? How is it accessed differentially for one dimensional and two dimensional array? [15]

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**[140]**

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## MCA I Sem. (Main/Back) Exam. Dec. 2017
## MCA-102A Programming in C &C++

**Time: 3 Hours** **Maximum Marks: 80**

**Min. Passing Marks: 32**

*Instructions to Candidates:*

*Attempt all question. Marks of question are indicated against each question.*

*Use of following supporting material is permitted during examination.*

*(Mentioned in form No.205)*

1. NIL 2. NIL

Q.1 Answer the following questions in 1-2 lines. [1×10=10]

(a) Explain concept of Algorithm.

(b) Explain flow-chart and its elements.

(c) Explain concept of pointer.

(d) What are data type qualifiers?

(e) What is structured programming approach?

(f) Explain concept of encapsulation.

(g) Explain concept of data hiding.

(h) Explain keyword static.

(i) Explain object of C++.

(j) Explain destructor of C++.

2 Answer the following in not more than 50 words :

(a) Is there any difference between graph and tree ? Explain.

(b) What is the difference between selection sort and insertion sort ?

(c) What is tower of hanoi ? Explain.

(d) Discuss various use of :: Operator in c++ ? Explain.

(e) What is the basic difference between inheritance and polymorphism ?

**5×3=15**

3 Answer the following questions is not more than 150 words :

(a) Insert the following list of characters in the binary search tree.
D B L F H A N

(b) Write an algoritham for bubble sort with an example.

(c) Explain constructor and destructor with example.

(d) Convert (a + (b * (c - d) + (e) - (f * g))) into postfix notation.

(e) What is the difference between structured programming and object oriented programming ?

**5×4=20**

4 (a) What is operator overloading ? How will you overload binary unary operations ? Discuss both processes with the help of programming implementations.

(b) Write an algoritham to insert a data item in a circular queue ?

**10×2=20**

5 Insert the following data keys in an AVL tree.
16, 23, 9, 163, 64, 29, 73, 83, 90, 96 (10 keys) Also traverse the tree in order.

**15**

**OR**

5 What is dynamic binding ? Explain the concept of virtual function with the help of an example.

**15**

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MCA I-semester. (Main) Examination Dec- 2016

MCA-102A Programming in C & C++

Time : 3 Hours

Maximum Marks : 80

Min. Passing Marks : 32

*Instructions to Candidates:*

*Attempt All questions.*

*Marks of question are indicated against each question*

1. Answer the following questions in 1-2 lines. (1×10=10)
   a. What are data type qualifiers
   b. Define Array and its types
   c. What are preprocessor statements?
   d. What do you mean by structure programming approach?
   e. What is C++?
   f. What is class?
   g. Explain constructor
   h. Explain Inline function
   i. List of all data types use in C & C++
   j. Write a C++ statement which is print "Hello India".
2. Answer the following questions in **50** words : (5×3=15)
   a. What is function overloading?
   b. What is inheritance in C++ and name the different types of inheritance?
   c. Write a C statement to find maximum of two numbers using ternary operator.
   d. What is recursion? What are its advantages?
   e. What is different between union & structure?
3. Answer the following questions in approximately **150** words each : (5×4=20)
   a. What are keywords? List the rules for naming a variable in C?

[Contd....

Q.2 Answer the following questions in 50 words: [5×3=15]

(a) Explain constructor overloading.

(b) Describe access specifier and their implementation.

(c) Write a program showing use of 'this' pointer.

(d) WAP for a global function accessing private member of class.

(e) Write down concept of inheritance and explain its types.

Q.3 Answer the following questions in approximately 150 words each: [5×4=20]

(a) WAP to demonstrate nesting of structures.

(b) Demonstrate swapping of two numbers using function and displaying output of swapping in main ( ).

(c) Demonstrate working of 'friend class'.

(d) Demonstrate Binary operator overloading.

Q.4 (a) Write a simple program to show use of constructor and destructor in C++. Also show use of new & delete operator in the same program. [10]

(b) Write short note on: - [5×2=10]

(i) Malloc

(ii) Data Abstraction

(iii) Inline function

(iv) Unary operator overloading

(v) Scope resolution operator

Q.5 Write concept of virtual function in C++. Also explain concept of pure virtual function and show implementation by a program. [15]

**OR**

Q.5 (a) Explain with help of program concept of virtual base class. [8]

(b) What is exception handling? Demonstrate with help of program. [7]

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b. Write a C program to print the following output using nested loops

```
*
*   *
*   *   *
*   *   *   *
*   *   *   *   *
```

c. Explain the terms encapsulation, polymorphism and inheritance in object oriented programming.

d. What is a constructor? How is a constructor different from member function? Illustrate with an example.

e. What is Function overloading? Write a C++ program to define three overloaded functions area ( ) to find area of rectangle, area of rectangular box and area of circle.

4. a) Explain and write a C++ program, the process when the base class is derived by the following visibility modes : (i) public (ii) private (iii) protected (10)

b) Write short notes on : (5×2=10)

i) Data Abstration

ii) This pointer

iii) Inline functions

iv) Direct and Indirect base class

v) Array within structure

5. Define the different kinds structure and develop a program called time struct containing 3 members called hour, minute and second. that would assign value to the individual members and display the time in the form 16:40:30. (15)

**OR**

What is exception handling? Write a C++ program to demonstrate the "try", "throw" and "catch" keywords for implementing exception handling. (15)

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M. C. A. (Sem. II) (Main & Back) Examination, April-May 2018

MCA - 201 C++ and Algoritham and Data Structure

Time : 3 Hours Maximum Marks : 80

Min. Passing Marks : 32

*Attempt All question. Marks of question are indicated against each question.*

*Use of following supporting material is permitted during examination. (Mentioned in form No. 205)*

1. NIL 2. NIL

1 Answer the following questions in one line :

(a) What do you mean by operator overloading ?

(b) Define inheritance.

(c) What is encapsulation ?

(d) What is the use of friend function ?

(e) What do you mean by traversing a graph ?

(f) What is the difference between binary tree and binary search tree ?

(g) What is the role of Protected access specifier ?

(h) What is pure virtual function ?

(i) Why do we use stacks ?

(j) What operations can be performed on queries ?

1×10=10