

Seat Number

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BCA - 24

Programming in C++
(Part - II) (1204)

P. Pages : 2

Time : Two Hours

Max. Marks : 60

Instructions to Candidates :

1. Do not write anything on question paper except Seat No.
2. Graph or diagram should be drawn with the black ink pen being used for writing paper or black HB pencil.
3. Students should note, no supplement will be provided.
4. All questions carry equal marks.
5. Attempt any five of the following.

1. a) Discuss the different features of object oriented programming. 12
b) Explain the concept of :
 - i) Class
 - ii) Object
 - iii) Access specifier
2. a) What is the use of constructors in C++? Explain the different types of constructors that C++ supports. 12
b) Write a program in C++ to demonstrate the use of friend function. Also explain the advantages of the same.
3. a) How is multiple inheritance achieved in C++? Explain with suitable example? 12
b) Explain the use of abstract class in C++? Why is it required?
4. a) Write in short about: 12
 - i) Virtual base class
 - ii) Virtual functions.

- b) How can operator overloading be done? Explain the steps to overload a unary operator.
5. a) Does C++ support exception handling? Explain the different ways it can be done. **12**
- b) Explain the following:
- i) Class template
 - ii) Function template
6. a) Write a program in C++ to implement and use an array. **12**
- b) Explain the following terms:
- i) Stack
 - ii) Tree
 - iii) Link list
7. a) Give the functions in stream computation to write values to the console? Give suitable example. **12**
- b) How does C++ support polymorphism? Explain.
8. a) Explain the concept of: **12**
- i) Delegation
 - ii) Destructor
- b) What do you mean by binary operator overloading? Explain with suitable example.

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BCA - 34
Java Programming
(1304)

P. Pages : 1

Time : Two Hours

Max. Marks : 60

Instructions to Candidates :

1. Do not write anything on question paper except Seat No.
2. Graph or diagram should be drawn with the black ink pen being used for writing paper or black HB pencil.
3. Students should note, no supplement will be provided.
4. Attempt any five.

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|----|---|---|
| 1. | a) Write a short note on JVM. | 6 |
| | b) Write a short note on super class in Java programming. | 6 |
| 2. | a) Explain array with example. | 6 |
| | b) What are different access-modifiers in Java programming. | 6 |
| 3. | a) Explain command line arguments with example. | 6 |
| | b) Write a java program to calculate factorial of given number. | 6 |
| 4. | a) Explain different string functions in Java programming. | 6 |
| | b) How the exceptions in Java programming are handled? | 6 |
| 5. | a) Explain advantages of Java programming. | 6 |
| | b) Enlist datatypes in Java and explain any two in brief? | 6 |
| 6. | a) Write a short note on package and explain with example. | 6 |
| | b) How to define class and variables in Java. | 6 |
| 7. | a) Write a short note on constructors in Java. | 6 |
| | b) What is abstract class? Explain it. | 6 |
| 8. | a) Explain concept of interface with example. | 6 |
| | b) Discuss static members in Java programming. | 6 |

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BCA - 44
Data Structure
(244)

P. Pages : 3

Time : Three Hours

Max. Marks : 80

Instructions to Candidates :

1. Do not write anything on question paper except Seat No.
2. Graph or diagram should be drawn with the black ink pen being used for writing paper or black HB pencil.
3. Students should note, no supplement will be provided.
4. All questions are compulsory.
5. Figures to the right indicate full marks.

1. Attempt any eight of the following. 16
 - a) Define data structure.
 - b) Define entity and attributes.
 - c) What is array? List different types of array.
 - d) Define Deques?
 - e) Define two-way list.
 - f) Why stack is called Last In First Out (LIFO) type of memory?
 - g) What is queue?
 - h) Define binary tree?
 - i) What is graph? List its types.
 - j). What do you mean by searching?

2. Attempt any three of the following. 12
 - a) What is algorithm? Explain different algorithmic notations?

- b) How arrays are represented in memory?
- c) Write an algorithm to search an item in a link list.
- d) Explain the concept of recursion with example.
- e) Explain heap sort with suitable example?

3. Attempt any three of following. 12

- a) Explain different data structure operations.
- b) Write an algorithm to traverse a linear array.
- c) How link lists are represented in computers memory?
- d) Write a short note on priority queues.
- e) Write a difference between linear search and binary search.

4. Attempt any four of the following. 16

- a) Define : a) Elementary data item. b) Group data item.
- b) Write an algorithm of bubble sort.
- c) Write a difference between single linked list and two-way list.
- d) Convert the following expression into prefix and postfix expression
 $(A + B) / (C - D)$
- e) How graphs are represented in computers memory?
- f) Write an algorithm to insert an element in a queue.

5. Attempt any three of the following. 12

- a) Explain the concept of binary search tree with example.
- b) Write binary search algorithm.
- c) Explain the concept of pointer arrays with example.
- d) Write an algorithm to delete an element from queue.

e) Explain working of selection sort with example.

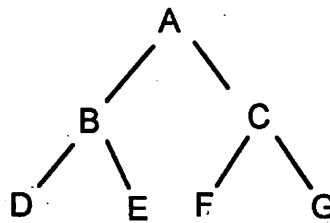
6. Attempt any two of the following.

12

a) Write an algorithm for PUSH and POP operation on stack.

b) What is sorting? Write an algorithm for insertion sort?

c) Transverse following tree with preorder. Inorder and postorder method.



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BCA - 24

Introduction to Programming Using C++ (June 2011) (124)

P. Pages : 2

Time : Three Hours

Max. Marks : 80

Instructions to Candidates :

1. Do not write anything on question paper except Seat No.
2. Graph or diagram should be drawn with the black ink pen being used for writing paper or black HB pencil.
3. Students should note, no supplement will be provided.
4. Figures to the right indicates full marks.

1. Attempt any eight. 16
 - a) What is pointer?
 - b) What is keywords?
 - c) Write a syntax for array in C++
 - d) What is structure?
 - e) What is identifiers?
 - f) Write a syntax for if-else statement.
 - g) What is string?
 - h) List the operators used in C++.
 - i) Which header file used in C++?
 - j) What is variables?

2. Attempt any three. 12
 - a) Write a C++ program for count the number of given string.
 - b) Explain data types of C++
 - c) Write a short note on parameter.

- d) Explain array in C++.
- e) Explain for loop with example.
3. Attempt any three. 12
- a) Write a short note on pass by reference.
- b) Explain recursive function.
- c) What is C++?
- d) Write a C++ program for addition of two numbers.
- e) Explain inline function.
4. Attempt any two. 16
- a) Explain multidimensional array with example.
- b) Write difference between structure & union.
- c) Write a C++ program to use of switch statement.
5. Attempt any two. 12
- a) Explain various control flow statement in C++.
- b) How to use structure in C++?
- c) Write a C++ program for maximum of three numbers.
6. Attempt any two. 12
- a) Explain various function of pointer.
- b) Explain operator precedence.
- c) Write a C++ program for sum of array.

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BCA - 54
VB. NET (June 2013)
(354)

P. Pages : 2

Time : Three Hours

Max. Marks : 80

Instructions to Candidates :

1. Do not write anything on question paper except Seat No.
2. Graph or diagram should be drawn with the black ink pen being used for writing paper or black HB pencil.
3. Students should note, no supplement will be provided.
4. All questions are compulsory.

1. Attempt any eight of the following. 16
 - a) What is Abstract function?
 - b) What is Framework Class Library?
 - c) Define class and object.
 - d) List IDE components.
 - e) What is JIT compiler?
 - f) Explain any four properties of Treeview control.
 - g) Explain any two events?
 - h) Enlist relational operators.
 - i) What is Friend Access Modifier?
2. Attempt any three of the following. 12
 - a) Write steps to create console application.
 - b) How .Net is better programming platform.
 - c) Explain Exception Handling.

- d) What Data types are available in VB.Net?
 e) Explain abstract class.
3. Attempt any three of the following. 12
- a) What is Delegates? Explain with proper example.
 b) What is Interface? Explain with suitable example.
 c) Write a program to implement Overriding a Method.
 d) What is Encapsulation?
 e) List and explain access modifiers.
4. Attempt any two. 16
- a) Explain conditional statements in VB.Net.
 b) Explain .Net Framework in detail.
 c) What is Crystal Reports? How to create a Crystal Report.
5. Attempt any two. 12
- a) Explain ADO.Net Architecture.
 b) What is property? How to create our own class property?
 c) Explain connection object and command object with its parameters and important methods.
6. Attempt any two. 12
- a) Explain constructors and destructors with suitable example.
 b) What is Data binding? How we can bind the data to controls like TextBox.
 c) Write short note on.
 a) Timer.
 b) Picture Box.

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BCA - 34

Object Oriented Programming Using C++ (June 2012)

(234)

P. Pages : 2

Time : Three Hours

Max. Marks : 80

Instructions to Candidates :

1. Do not write anything on question paper except Seat No.
2. Graph or diagram should be drawn with the black ink pen being used for writing paper or black HB pencil.
3. Students should note, no supplement will be provided.
4. All questions are compulsory.

1. Attempt any eight.

16

- a) Define pointer.
- b) What is Operator Overloading.
- c) Define class.
- d) Which string functions are used to count & compare strings.
- e) What is abstraction?
- f) What do you mean by procedure Oriented Programming.
- g) Write down definition, syntax for variables in C++.
- h) Define polymorphism.
- i) Define destructor.
- j) What is recursion?

2. Attempt any three.

12

- a) Explain purpose and write down syntax for –
 - i) Constructor
 - ii) Static members in C++.
- b) Define structure and write program using structure.
- c) Write a C++ program using Multilevel inheritance.
- d) Explain inline functions in brief.
- e) Enlist and explain features of OOPs.

3. Attempt any three. 12
- a) Explain Operator overloading.
 - b) Write a C++ program using various relational operators.
 - c) Explain this pointer.
 - d) Write a C++ program using string functions.
 - e) Enlist types of inheritance and explain any one of them.
4. Attempt any four. 16
- a) What do you mean by pointers in C++.
 - b) Write a short note on abstract class.
 - c) Write a C++ program for inline functions.
 - d) Write a short note on destructors.
 - e) Write a program using conditional statements in C++.
 - f) Write a C++ program using loop. State types of loops in C++ with syntax.
5. Attempt any three. 12
- a) Explain input/output statements in C++.
 - b) Write a program to demonstrate concept of objects in C++.
 - c) Explain default constructor in brief.
 - d) Write a C++ program using recursion.
 - e) Write a C++ program using hybrid inheritance.
6. Attempt any two. 12
- a) Write a note on function overloading. Explain with example.
 - b) Write a C++ program using pointers in C++.
 - c) What do you mean by pointer arithmetics.
