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BCA(III) — 301

268863

2019

Time : 3 hours

Full Marks : 80

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

The questions are of equal value.

Answer five questions in which

Q. No. 1 is compulsory.

1. Choose the correct alternative of the following :
 - (a) The operator which compares two value is :
 - (i) Assignment (ii) Relational
 - (iii) Unary (iv) Equal
 - (b) In which of the following we can not overload the function ?
 - (i) Return function
 - (ii) Caller
 - (iii) Called function
 - (iv) None of the above

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(Turn over)

(c) Constructors are normally used to allocate memory and :

- (i) Define variable
- (ii) Allocate variable
- (iii) Initialize variable
- (iv) Initialize object

(d) A derived class with only one base class is called :

- (i) Single inheritance
- (ii) Multiple inheritance
- (iii) Multilevel inheritance
- (iv) Hierarchical inheritance

(e) Which type of function among the following shows polymorphism ?

- (i) Inline function
- (ii) Virtual function
- (iii) Undefined function
- (iv) Class member function

(f) What among following is a generic class ?

- (i) Function template
- (ii) Class template

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(2)

Contd.

(iii) Inherited template

(iv) None of the above

(g) Which is the universal exception handler class ?

- (i) Object
- (ii) Math
- (iii) Errors
- (iv) Exceptions

(h) Which among following is correct syntax of closing a file in C++ ?

- (i) myfile \$ close();
- (ii) myfile @ close();
- (iii) myfile : close();
- (iv) myfile . close();

2. (a) What do you mean by object-oriented programming ? Explain the key concept of OOPs.

(b) Compare and contrast OOPs language with procedural oriented programming language.

3. What do you mean by inheritance ? Explain the difference between single and multilevel inheritance. Also give the advantages and disadvantages of inheritances.

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(Turn over)

2017

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Answer **five** questions in which Q. No. 1 is compulsory.

1. Choose the correct alternative of any **eight** of the following :

(a) C++ language was invented by :

- (i) Bjarne Stroustrup
- (ii) Dennis Ritchie
- (iii) Ken Thompson
- (iv) None of these

(b) The packing of data and functions into a single component is known as :

- (i) Encapsulation
- (ii) Polymorphism
- (iii) Abstraction
- (iv) None of these

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4. What do you mean by Virtual function ? Explain with example. Explain the difference between virtual function and virtual classes.

5. What do you mean by constructor and destructor ? Explain the characteristics of the constructor and destructor.

6. (a) What do you mean by exception handling ? Explain mechanism of exception handling.
(b) Explain the two types of exceptions.

7. Explain the standard streams in C++. Now is a stream linked to a file.

8. What are header file ? Why are they important ? Can we write a C++ program without using any header file ? Explain.

9. Write short notes on any **two** the following :

- (a) Polymorphism
- (b) Dynamic memory management
- (c) Generic classes
- (d) Error handling during file operation

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(c) The existing class can be reused by :

- ☒ (i) Inheritance
- (ii) Polymorphism
- (iii) Dynamic binding ✓
- (iv) Abstraction

(d) The union declared without tag name is called :

- ☒ (i) Anonymous union ✓
- (ii) Nameless union
- (iii) Unknown union
- (iv) Void union

(e) The constant function :

- ☒ (i) Cannot alter values of a variable
- (ii) Can alter values of a constant variable
- ☒ (iii) Makes its local variable constant
- (iv) None of these

(f) Encapsulation means :

- (i) Protecting data
- (ii) Allowing global access
- ☒ (iii) Data hiding
- (iv) Both(i) and (ii)

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(2)

Contd.

(g) The size of object is equal to :

- ☒ (i) Total size of member data variables
- ☒ (ii) Total size of member function ✓
- (iii) Both(i) and (ii)
- (iv) None of these

(h) Constructors and destructors are automatically invoked by :

- (i) Compiler
- ☒ (ii) Operating system
- (iii) Main() function
- (iv) Object

(i) Destructors can be :

- (i) Overloaded
- ☒ (ii) Of any data type
- (iii) Able to return result
- ☒ (iv) Explicitly called

2. What is object oriented programming ? Explain the advantages of oop.

3. Define constructors and destructors. Explain the characteristics of constructors and destructors.

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(3)

(Turn over)

4. Discuss the rules for overloading operators. What are the difference between operator overloading and function overloading with suitable example.
5. What is meant by inheritance ? Describe various types of inheritance with example.
6. What do you mean by Polymorphism ? Explain compile and runtime Polymorphism with suitable example.
7. What do you understand by exception handling ? Describe the role of keyword try catch, and throw in exception handling with example.
8. What is the concept of stream in C++ ? Describe the error handling during file operators. Give suitable example.
9. What is difference between class and struct ? Explain friend function and friend classes with suitable example.



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Answer **five** questions in which

Q. No. 1 is compulsory.

1. Choose the correct alternative of the following :
 - (a) The function accepts the string with blank spaces :
 - ~~(i) Get lines()~~ (ii) Cin
 - (iii) Scan f() ~~(iv) None of these~~
 - (b) The streams is a :
 - ~~(i) Flow of data~~
 - (ii) Flow of integers
 - (iii) Flow of statements
 - (iv) None of these

(c) C++ language was invented by :

- ☒ (i) Bjarne Stroustrup
- (ii) Dennis Ritchie
- (iii) Ken Thompson
- (iv) None of them

(d) Composition of objects in a class is known as :

- ☒ (i) Delegation
- (ii) Inheritance
- (iii) Polymorphism
- (iv) None of these

(e) The delete operator is used :

- ☒ (i) To delete object
- (ii) To delete file
- (iii) Both (i) and (ii)
- (iv) None of these

(f) Constructors and destructor are automatically involved by :

- (i) Compiler
- (ii) Operating system
- (iii) Main() function
- ☒ (iv) Object

(g) Destructors can be :

- ☒ (i) Overloaded
- (ii) None of these

(ii) Of any data type

(iii) Able to return result

☒ (iv) Explicitly called

(h) The multilevel inheritance, the middle class acts as :

- ☒ (i) Base class as well as derived data
- (ii) Only base class
- (iii) Only derived class
- (iv) None of these

2. What is different paradigm in OOP ? Explain the program structure in C++.

3. What are identifier, variables and constants ? Which are two types of constants ? Describe them with suitable example.

4. What do you mean by overloading of constructors ? How does it benefit the programmer ? Also, discuss the default constructor.

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(Turn over)

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(2)

Contd.

5. What is the difference between private and protected inheritance ? Explain the disadvantages and advantages of inheritance.
6. What is early binding and late binding ? Also, discuss compile time and run time binding.
7. Describe the guidelines for exception handling. What will happen if the programming language does not support the exception handling feature ?
8. What is a file ? Describe the two methods of operating of file.
9. What are the different types of memory models ? Explain the properties of new and delete operators.

